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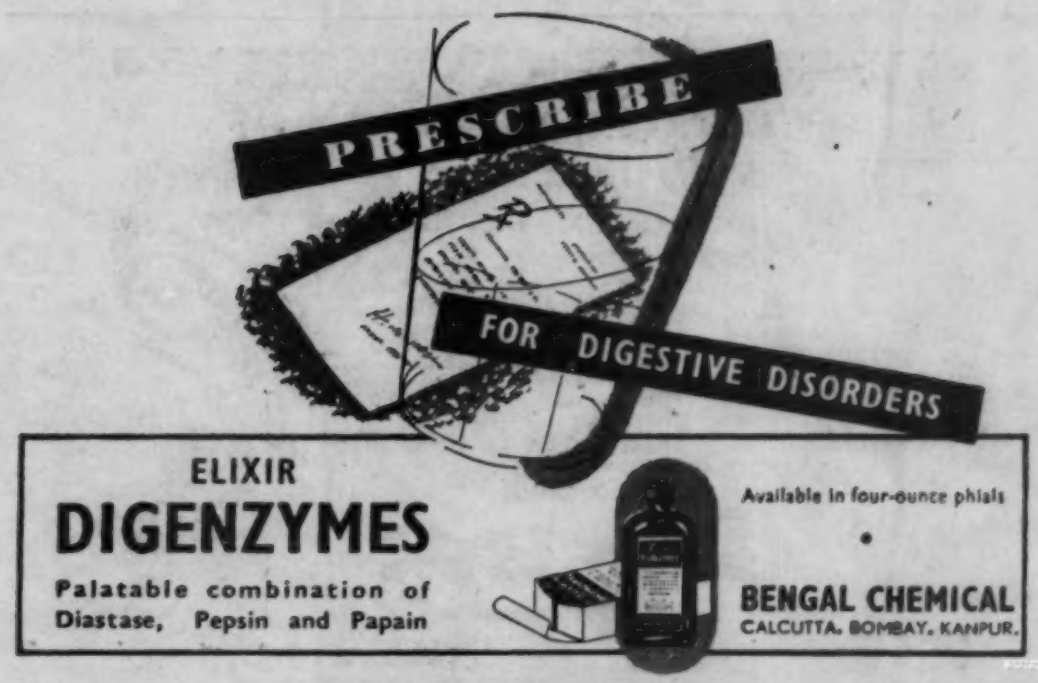

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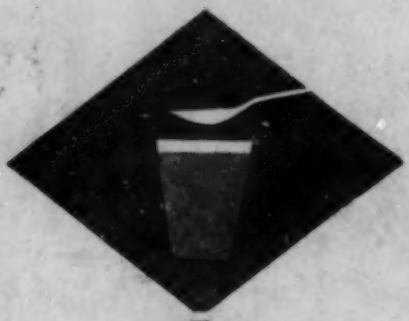

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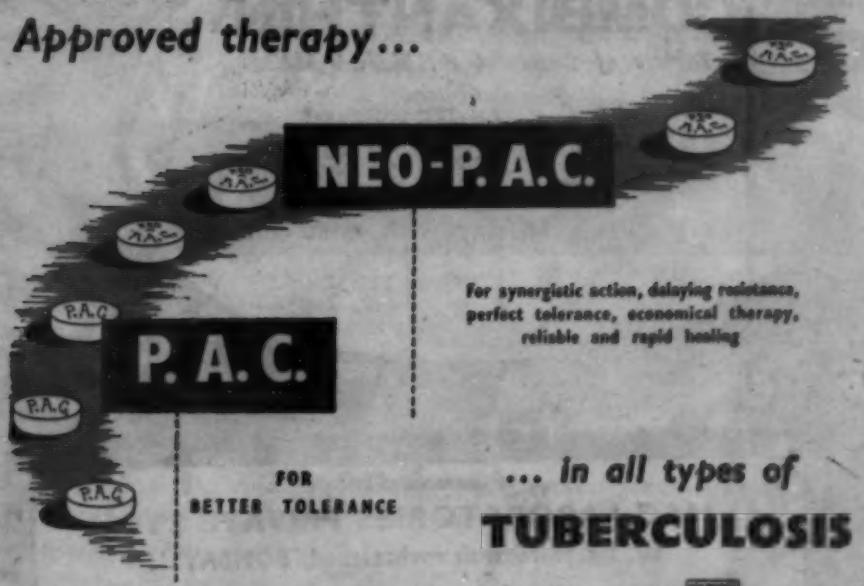

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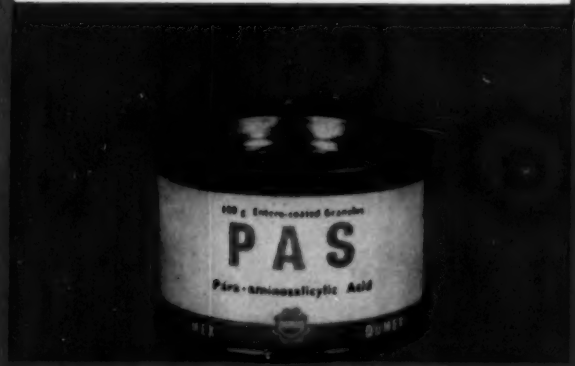

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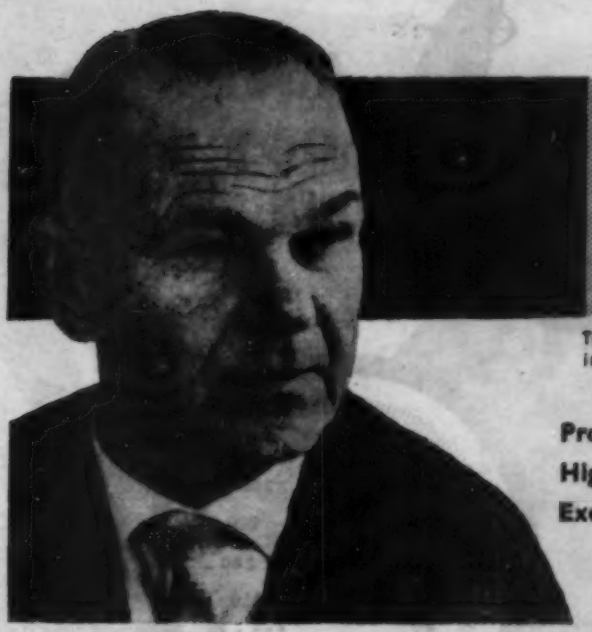

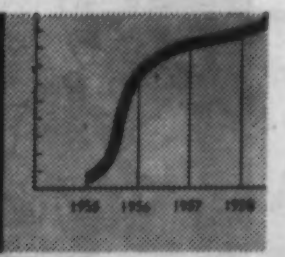

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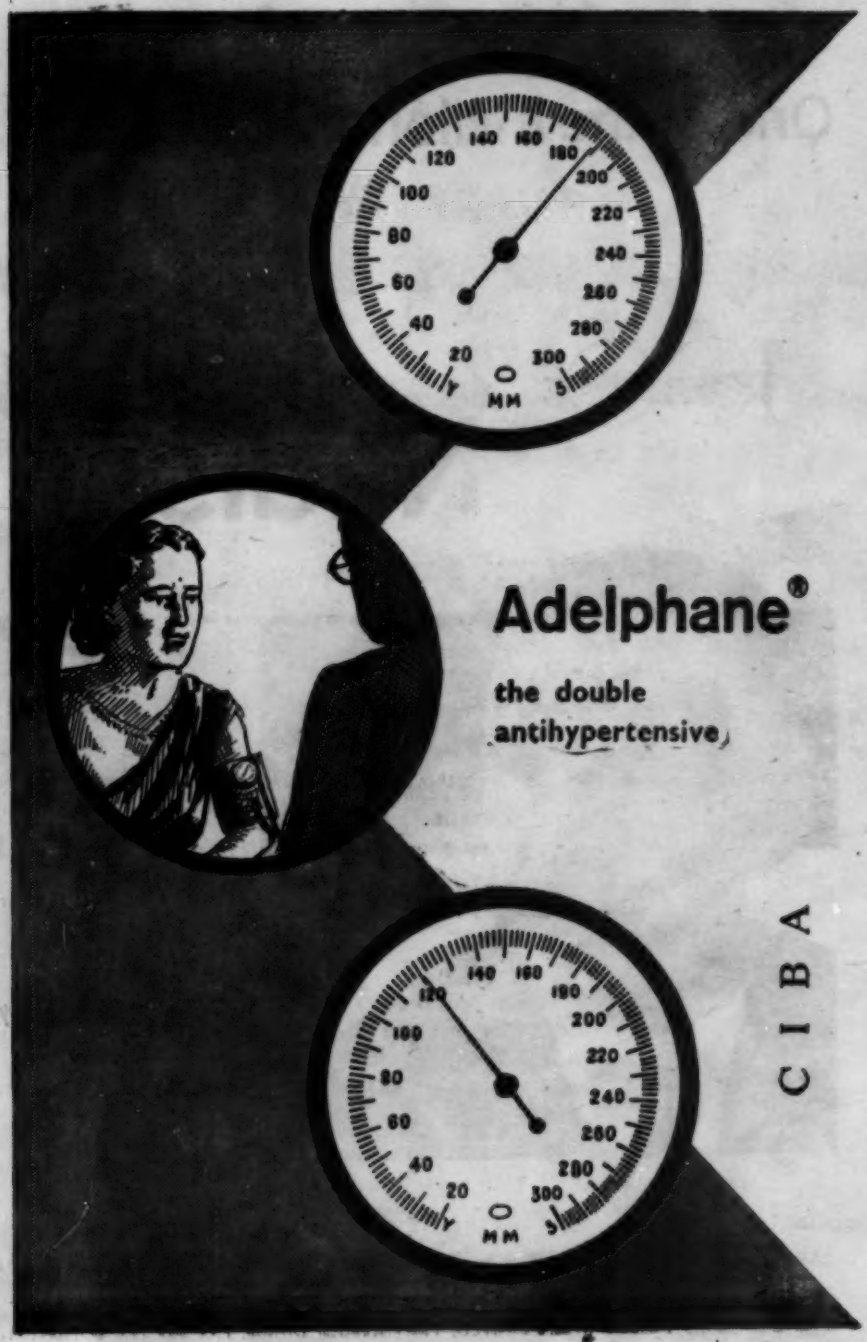
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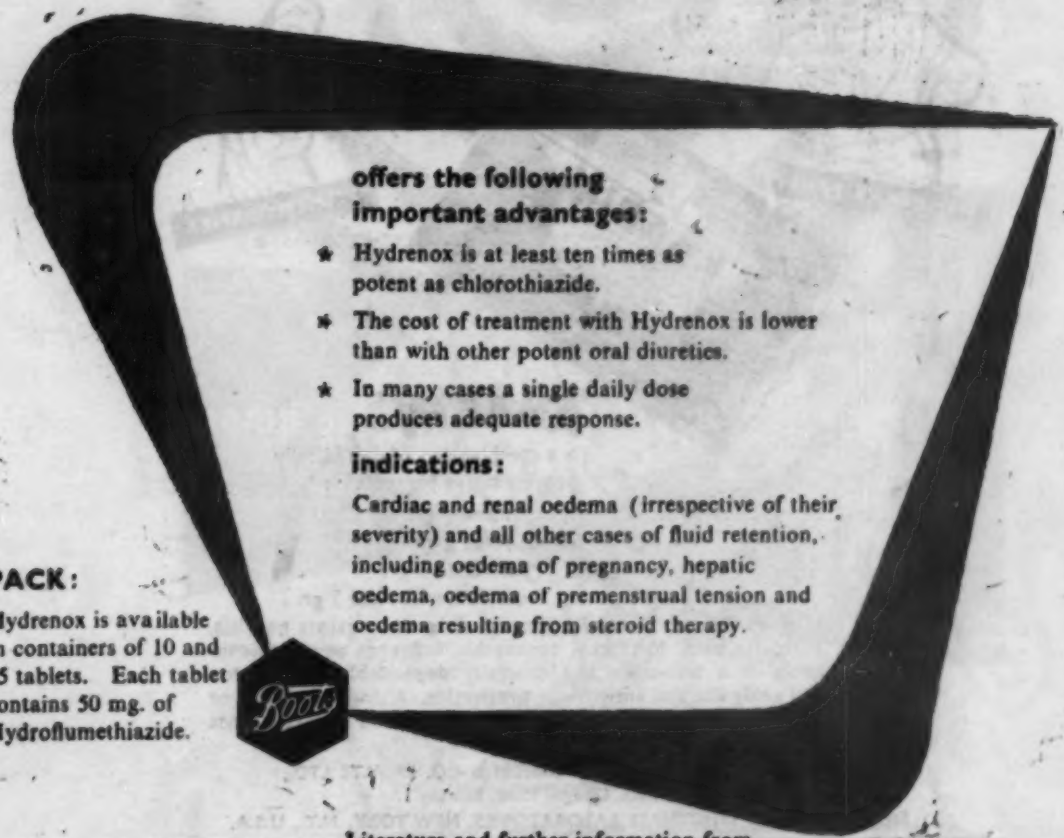

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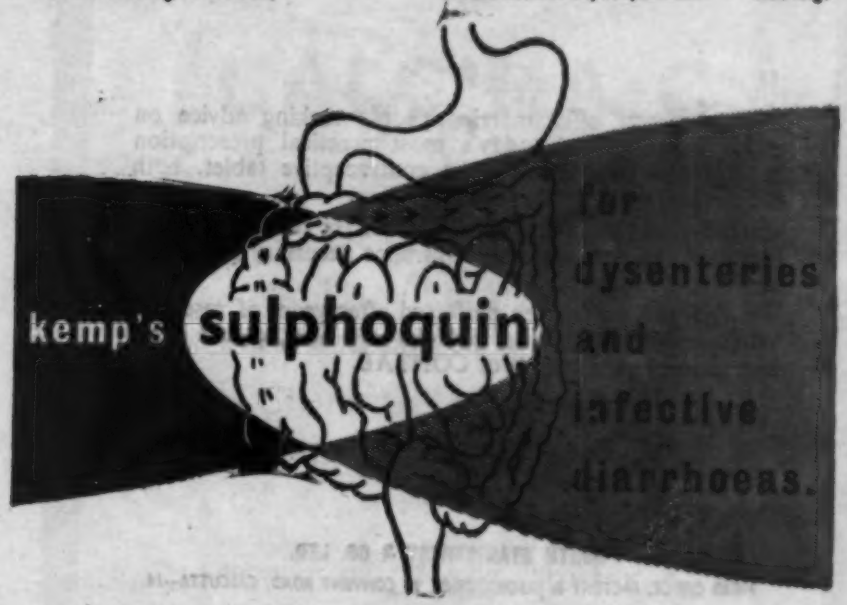

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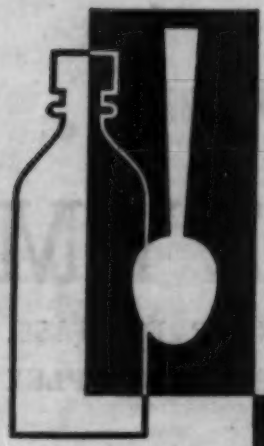

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ORIGINAL ARTICLES

EVALUATION OF TESTS FOR C-REACTIVE PROTEIN AND ANTI-STREPTOLYSIN 'O'

D. BARUA, M.D., S. K. BISWAS, M.B., D.P.H

AND

A. B. MUKHERJEE, M.B., D.T.M., M.R.C.P.

Department of Pathology & Bacteriology and Department of Cardiology
Institute of Post-Graduate Medical Education & Research, Calcutta

The test for C-reactive protein in serum is one of the newer diagnostic tools which is being employed to detect the presence or absence of a tissue destroying process in the body.

Tillet and Francis (1930) were the first to demonstrate this substance in the sera of patients suffering from pneumococcal infection which reacted with c-polysaccharide of the pneumococcus. This substance was called C-reactive protein (CRP). It was soon found to be present in the sera of patients suffering from different types of inflammatory diseases. This substance was also called 'acute phase protein' as it was found during the acute phase of the illness only. Recently CRP has been detected in the sera of patients with neoplastic diseases and myocardial infarction (Macleod and Avery, 1941 ; Roantree and Rantz, 1955 ; Sprunt and Hale, 1955 ; Levinger *et al*, 1957). It has never been found in the normal sera of men though it is found in the blood of monkeys (Abernethy, 1937).

Electrophoretically CRP is an alpha globulin and is known to be antigenic. It has been possible to prepare an antiserum (CRPA) by injecting this substance in pure form into rabbit. A simple precipitation test is possible with the serum of a patient and CRPA (rabbit serum containing antibody against CRP) to detect the CRP in the serum. Availability of commercial antiserum has made it a practical procedure for any laboratory and has entirely replaced the older laborious process of detection of CRP in sera.

With the increasing use of test for CRP for various diseases it has been found to be particularly useful for determining the activity of rheumatic disease (Anderson and McCarty, 1950 ; Stollerman *et al*, 1953). Various conflicting reports have, however, appeared regarding the value of this test in diagnosing and assessing the progress of ischaemic and rheumatic heart diseases as compared to the well-known laboratory tests like sedimentation rate, leucocyte count, etc.

Various workers (Rantz *et al*, 1951 ; Roy *et al*, 1956) have noted that active rheumatic disease is usually associated with a rise of anti-streptolysin 'O' titre in the serum above the normal of 1 : 250. A high titre of above 1 : 400 or more is usually considered by them to be an index of rheumatic activity.

During the course of this investigation attempts were made to evaluate the role of test for CRP in helping the clinical assessment of ischaemic and rheumatic affections of the heart and in some other diseases. Tests for anti-streptolysin 'O' were included for the study of cases of rheumatic heart disease only.

Materials and Methods

The test for CRP, sedimentation rate by Westergren method (first hour reading) and total and differential leucocyte counts were carried out on blood samples of 22 healthy adults, 12 women with normal pregnancies of different duration and 153 patients with different diseases. Anti-streptolysin 'O' titre of the sera of 24 patients of rheumatic disease of heart and 5 healthy adults was also determined.

Test for CRP—C-reactive protein antiserum (CRPA) was obtained from "Sclavo", Siena, Italy. The patients were on empty stomach and blood was collected in dry sterile test tubes. Clear sera were separated and mixed with CRPA in small capillary tubes (0·4 mm. × 90 mm.) in equal volumes, taking care not to include any air bubble. The tubes were slowly inverted several times to ensure proper mixing before they were kept on a rack with plasticin support. The rack was incubated at 37°C for 2 hours before being kept at 4°-6°C for about 18 hours. A preliminary reading was taken after 2 hours incubation but the results noted in this series were those noted after overnight refrigeration. The result was expressed in a semiquantitative way. Complete absence of any precipitate in the tubes was considered as negative or 'O'. Each mm. of the length of the column of precipitate was considered as '+'. The length of the column of precipitate seldom exceeded 2 mm. or '++' in this series.

Anti-streptolysin 'O' titration of serum—Sera of the patients from cases of rheumatic heart disease and from 5 healthy adults were titrated for their anti-streptolysin 'O' content. Streptolysin 'O' was obtained from 'Sclavo', Siena, Italy. Different dilutions of the sera in buffered saline (pH 6·5-6·7) were mixed with the antigen and kept in water-bath at 37°C for 15 minutes. Rabbit cell suspension (5 per cent) were then added and the mixture was placed in the water-bath for further 45 minutes before refrigeration for 18-20 hours and then final reading was taken. Adequate antigen, saline and serum control and a known positive serum and a known negative serum control were included with each group of tests. The antigen after being prepared was used up within half an hour. The highest dilution of the serum which prevented the haemolysis of the rabbit cell was taken as the titre. The titre of anti-streptolysin 'O' in 5 healthy adults included in this series was below 1 : 200.

Results

The results of these investigations of different groups of cases are shown for the sake of convenience in Tables 1, 2, 3, and 4.

Table 1—Showing the E.S.R., Leucocyte Count and CRP Content in the Sera of Normal Adults and Pregnant Women

Subjects	No. of cases	CRP present	E.S.R. above 15 mm. /1st hr.	Leucocyte count above 8000/ c.mm.
Normal adults ...	22	nil	nil	nil
Normal pregnant women				
1st trimester ...	3	nil	3	nil
2nd trimester ...	3	nil	3 (from 72 mm—99 mm.)	nil
3rd trimester ...	6	nil	6 (from 48 mm.—110 mm.)	nil

Discussions

CRP could not be detected in the sera of 22 adult males and 12 otherwise normal pregnant women in different stages of their pregnancy. The sedimentation rate of the pregnant women was found to vary from 48-110 mm. (Westergren) even during the first trimester of pregnancy. So detection of CRP in sera of pregnant women appears to be a very useful method in assessing the activity of tissue destroying lesion associated with pregnancy when sedimentation rate is of little help.

Myocardial infarction—The laboratory tests like estimation of serum transaminase, plasma fibrinogen, urinary coproporphyrin, test for CRP, sedimentation rate and leucocyte counts, etc., have all been found to be useful for diagnosis of myocardial infarction. They have been considered to be particularly helpful in diagnosing or excluding a second or a subsequent apprehended attack of myocardial infarction. In more than 90-95 per cent of cases of first attack an electrocardiogram taken and interpreted in the proper way is very helpful but it may not be so in subsequent attacks with an already distorted electrocardiogram.

Presence of CRP in blood associated with the usual clinical features has been considered to be almost diagnostic of myocardial infarction (Levinger *et al*, 1957; Kozones and Gurevin, 1957). These authors also thought that its presence or absence is of prognostic significance, but were unanimous in pointing out that the lack of specificity of this test limits its diagnostic value. Levinger *et al* (*loc. cit.*) found that CRP appears in the sera before the electrocardiographic changes

of infarction and that it disappears early, whereas electrocardiogram undergoes a progressive change for weeks or months. According to these authors the test for CRP is more reliable than estimation of sedimentation rate in following the natural course of this disease.

In most of the cases of myocardial infarction in this study, investigation was delayed as the patients came to the hospital rather late.

Neutrophilic leucocytosis (Table 2) was found in all the cases admitted during the first few days of illness and usually returned to normal within 10 days. Sedimentation rate was elevated in 9 out of 11 cases admitted during the first 6 days of illness and remained high in 11 cases even when the CRP disappeared from the sera (Table 2).

CRP was present in the sera of all the 12 cases admitted during the acute stage of their illness. In 2 cases (Nos. 5 and 6) CRP could be detected in the sera before the sedimentation rate was accelerated. In Cases 6 and 7 (Table 5) CRP appeared on the 4th day of illness though leucocytosis appeared on the 2nd and 1st day respectively. In most of these cases CRP disappeared during the later part of the 2nd week or beginning of the 3rd week. In two cases (Nos. 12 and 13) CRP was found to persist up to 48th and 17th day of illness respectively. Similar persistence of CRP was noted in the sera of cases of myocardial infarction by Levinger *et al* (*loc. cit.*).

It appears from this study than CRP does not possess any special advantage over other simpler laboratory aids in diagnosis of and assessing the progress in cases of myocardial infarction, though it was present in the sera of all the patients admitted during the early days of illness. CRPA (antiserum) is a costly reagent and detection of CRP may be considered as just one more laboratory test for the diagnosis of this affection of the heart.

Rheumatic heart disease—Hill (1952) drew attention to the test for CRP in the sera of cases of rheumatic disease of the heart as he thought that the concentration of CRP faithfully mirrored the fluctuations of activity of the lesion. He noticed that sedimentation rate remained high during early convalescence even after the disappearance of CRP. Stollerman *et al* (1953) also found it to be a reliable and sensitive index of rheumatic activity and considered it to be a more reliable laboratory test than sedimentation rate in controlling therapy.

Elster *et al* (1956), however, did not consider it to be a dependable test. In 30 out of his 40 cases of congestive heart failure CRP was found, although only 4 of them had other evidences of

TABLE 2—SHOWING THE RESULTS OF INVESTIGATION IN CASES OF MYOCARDIAL INFARCTION

Case No.	Day of illness when CRP was first detected	E.S.R. on that day (in mm.)	Leucocyte count on that day		Day of illness when CRP disappeared	E.S.R. on that day (in mm.)	Leucocyte count on that day	
			Total (in cmm.)	Neutrophil (in %)			Total (in cmm.)	Neutrophil (in %)
1.	3rd (+) (1st test)	54	13400	87	17th	67	6800	63
2.	3rd (++) (1st test)	20	16200	81	17th	57	6000	58
3.	17th (++) (1st test)	92	6050	60	19th	65	7000	64
4.	Negative (A case of 3 months' duration)	15	6800	48				
5.	1st (++) (1st test)	12	21000	94	18th	36	5800	64
6.	4th (++) (2nd test)	14	12800	78	21st	28	7100	66
7.	4th (++) (2nd test)	74	10700	74	15th	63	8300	64
8.	6th (+) (1st test)	65	13600	84	16th	30	6250	64
9.	5th (+) (1st test)	65	11200	84	16th	25	9200	64
10.	Negative (admitted 12th day)	—	—	—	12th (1st test)	20	8200	69
11.	Negative (admitted 17th day)	—	—	—	17th (1st test)	90	7800	68
12.	28th (+) (1st test)	56	7500	58	Positive (+) till discharge (48th day)	40	7100	65
13.	4th (++) (1st test)	78	10000	79	Positive (++) till death (17th day)	—	—	—
14.	3rd (++) (1st test)	98	14100	85	Could not be done	—	—	—

rheumatic activity. Auraban (1956) was also less enthusiastic about the usefulness of this test in determining rheumatic activity. He concluded that in some cases of rheumatic fever, particularly if protracted, the tests for CRP and anti-streptolysin 'O' titre are not of definite help in determining the activity of rheumatic lesion. He thought sedimentation rate, although not specific, is still the most convenient guide for such evaluation.

Thirty cases of rheumatic heart disease at various stages were included in this study. Anti-streptolysin 'O' titre was determined in 24 out of 30 cases while the test for CRP, estimation of sedimentation rate and leucocyte count were done in all of them. These cases were broadly divided into two groups, active and inactive, on the basis of clinical findings, leucocyte count and sedimentation rate.

In 10 such 'active' cases, CRP was detected in the sera of 8, sedimentation rate was high in 9 and leucocyte count was 8000/c.mm. or more in 9. Anti-streptolysin 'O' titre was found to be more than 1 : 200 in 6 of them. In 20 clinically 'inactive' cases CRP was present in 4, sedimentation rate was high in 11 and leucocytosis was present in 4 cases. Anti-streptolysin 'O' titre was high in 13 out of 18 such inactive cases.

These results thus indicate that none of these tests done singly can be relied upon to denote the rheumatic activity. There was no absolute correlation among the tests carried out as can be seen from Table 3. The presence of CRP, however, appears to be a better index of rheumatic activity than high sedimentation rate as in 12 out of 20 inactive cases in this series the sedimentation rate remained high.

TABLE 3—SHOWING THE RESULTS OF FOUR TESTS IN RHEUMATIC DISEASE OF THE HEART

Sl. No.	S.R. (mm./1st hr.)	Leucocyte count		Anti-streptolysin 'O' titre	CRP	Grading of disease
		Total (in cmm.)	Neutrophils (in %)			
1.	100	8850	68	—	Pos.	Active
2.	5	5300	54	—	Neg.	Inactive
3.	41	7650	36	—	Pos.	Active
4.	23	8000	50	—	Pos.	Active
5.	65	7000	46	—	Neg.	Inactive
6.	40	8200	42	—	Neg.	Active
7.	132	10500	68	above 1 :666	Pos.	Active
8.	34	—	—	above 1 :666	Neg.	Inactive
9.	24	10700	35 (Eosino—36%)	1 :400	Neg.	Inactive (tropical eosinophilia)
10.	10	—	—	below 1 :200	Neg.	Inactive
11.	10	7100	51	above 1 :500	Neg.	Inactive
12.	62	8200	58	1 :200	Pos.	Inactive (heart failure)
13.	4	8100	68	1 :200	Pos.	Active
14.	35	7500	56	above 1 :666	Neg.	Inactive
15.	26	7300	59	above 1 :666	Neg.	Inactive
16.	38	7700	60	above 1 :666	Neg.	Inactive
17.	133	9200	68	1 :400	Pos.	Active
18.	27	8300	64	above 1 :500	Neg.	Active
19.	74	6800	69	above 1 :500	Pos.	Active
20.	18	9800	68	above 1 :500	Pos.	Inactive
21.	11	4800	57	above 1 :666	Neg.	Inactive
22.	2	8200	51	1 :200	Neg.	Inactive
23.	5	6600	45	above 1 :666	Neg.	Inactive
24.	18	5500	16	above 1 :500	Neg.	Inactive
25.	95	6900	58	above 1 :500	Pos.	Inactive
26.	70	10500	72	above 1 :666	Pos.	Active
27.	24	4650	69	above 1 :666	Neg.	Inactive
28.	88	8700	48	1 :500	Pos.	Inactive
29.	42	18800	28 (Eosino—64%)	1 :200	Pos.	Inactive (tropical eosinophilia)
30.	20	5500	47	below 1 :200	Neg.	Inactive

TABLE 4—SHOWING THE RESULTS OF THREE TESTS IN SOME OTHER DISEASES

Sr. No.	Nature of disease in subjects of tests	No. of cases	CRP present	E.S.R. above 15 mm./ 1st hr.	Leucocyte count above 80000/ cmm.
1.	Tuberculosis :				
	Pulmonary ...	17	15	12	7
	Non-pulmonary ...	10	4	8	8
2.	Tumours :				
	Malignant ...	11	8	11	7
	Intracranial ...	13	4	5	4
3.	Parasitic diseases like intestinal amoebiasis and helminthiasis ...	6	nil	5	1
4.	Infectious disease :				
	Bacterial infection	10	10	10	1
	Amoebic hepatic necrosis ...	1	1	1	1
	Virus hepatitis ...	2	2	2	1
	Chickenpox ...	8	2	7	nil
5.	Syphilis :				
	Secondary ...	2	2	1	nil
	Latent ...	3	nil	2	nil
6.	Cirrhosis liver ...	3	2	3	nil
7.	Bronchial asthma : (Total eosinophils 126—736/cmm.)	4	3	4	2
	Tropical eosinophilia (Total eosinophils 3166—19600/cmm.)	6	nil	5	6
8.	Nephrotic syndrome	3	nil	3	nil
9.	Lymphoma & leukaemia ...	3	2	2	2
10.	Endocrine disorders				
	Toxic goitre ...	3	nil	3	2
	Addison's disease ...	1	nil	1	nil
	Diabetes mellitus	3	nil	3	1

TABLE 5—SHOWING THE DAYS OF APPEARANCE OF CRP AND RISE OF E.S.R. IN TWO CASES OF MYOCARDIAL INFARCTION

Case No.	Day of illness	E.S.R. (in mm.)	Total WBC/ Neutro (%)	CRP
6	2nd	9	9200/71	Neg.
	4th	14	12800/78	++
7	4th	5	16700/91	Neg.
	1st	74	10700/74	+

Tuberculosis—Altogether 27 cases of pulmonary and non-pulmonary tuberculosis were investigated. CRP was found in 15 out of 17 cases of pulmonary tuberculosis. It could be detected in the sera of 3 cases of tuberculoma of the brain and was absent in the serum of another, which was subsequently confirmed by post-operative histological examination. The absence of CRP in 2 cases of pulmonary tuberculosis with fairly extensive lesions seen after removal of the diseased lung and 6 cases of non-pulmonary tuberculosis, is difficult to explain. Roantree and Rantz (1955) and Taylor (1957) have also recorded similar observations.

Neoplastic diseases—Out of 14 cases of malignant diseases, including the cases of lymphoma and leukaemias, CRP was present in 10 though only 7 of them had definite metastasis. This protein was detected in the sera of 4 cases of intracranial tumours out of 13 cases studied. This shows that the test for CRP is not of any diagnostic or prognostic value in case of malignant disease.

Other diseases—Table 4 indicates that CRP could be detected in almost all cases where tissue destruction was expected. Its presence or absence in the sera of virus diseases, bronchial asthma, tropical eosinophilia, etc., probably depends on the degree of tissue destruction due to disease *per se* or by associated infection. These results indicate that this test cannot be of any diagnostic value.

SUMMARY

Test for C-reactive protein (CRP) was carried out with sera of 22 healthy adults, 12 pregnant women and 153 patients suffering from different types of diseases, which included 14 cases of myocardial infarction and 30 cases of rheumatic heart disease. Leucocyte count and estimation of sedimentation rate were done along with the test for CRP. These tests were repeated during the period of stay of the patients in the hospital.

Anti-streptolysin 'O' titre was also determined in 24 cases of rheumatic heart diseases and 5 normal adults.

Observation based on 14 cases of myocardial infarction failed to point out any special advantage of detection of CRP over other simpler laboratory aids, though it was found in the sera in the early stage of all the cases of myocardial infarction.

High titre of anti-streptolysin 'O' was found in sera of 13 clinically 'inactive' cases of rheumatic heart disease and CRP in 4 of them. The test for CRP appears to be better than estimation of sedimentation rate, as in 12 out of 20 'inactive' cases sedimentation rate remained high.

It is almost always found in the sera from cases of malignant disease but non-specificity of its presence deprives it of any diagnostic value. Its presence in the sera of various other diseases does not appear to be constant except in acute infective illness like typhoid fever. It was found to be absent in the sera of two cases of pulmonary tuberculosis with caseous lesions and in one out of 4 cases of tuberculoma of brain.

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PENICILLIN INACTIVATION BY SERA OF PATIENTS PREVIOUSLY TREATED WITH PENICILLIN

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Penicillin occasionally fails to produce therapeutic effect due to development of resistance to penicillin by certain pathogenic organisms. It may also fail to produce the desired effect due to failure of defence mechanism of the host to supplement its activity. It occurred to us that in addition to these well-known causes there might be an additional factor, namely, inactivation of penicillin by sera of patients who had previous experience of penicillin. In a recent publication, the authors (Sarkar *et al*, 1958) have shown that in experimental infection in mice with strains of staphylococcus which were moderately or highly resistant to penicillin, the mice could not be protected by increasing the dose of penicillin to any extent. From the analogy of experimental work it could be deduced that there is no justification for increasing the dose of penicillin in clinical practice to overcome the resistance of the organism.

Nevertheless, it was considered worthwhile to investigate the influence of the additional factor mentioned above, towards the reduction of the therapeutic effect of penicillin. The ability of several varieties of human saprophytes or pathogens to produce penicillinase is well known (Wilson and Miles, 1955). Organisms which are subjected to repeated exposure to penicillin, administered therapeutically, may likely adapt themselves enzymatically to increase gradually the tempo of their penicillinase production. This or some other unknown inhibiting substances may be the additional factor mentioned above. The experiments presented in this paper relate to the detection of such penicillin inhibiting substances in the sera of those patients who had repeated administration of penicillin.

Materials

The patients who were subjected to this investigation could broadly be subdivided into three groups: Group 1—those who have had definite history of penicillin therapy in the recent past; group 2—those who gave history of previous peni-

cillin therapy, but such therapy did not occur under our surveillance; and group 3—those who gave no history of penicillin therapy. All the subjects had been receiving aqueous solution of crystalline penicillin G, 500,000 units every twelve hours. Samples of blood were drawn on the third day of penicillin therapy, eleven hours after the last dose of penicillin. No other antibiotic or chemotherapeutic drugs were administered to any of these patients at the time of the experiment.

For control, a few subjects who are definitely known not to have received any penicillin in the recent past, were chosen. No penicillin was administered to them during the period when the blood was collected. Samples of blood were drawn from them to serve as control for testing the penicillin inactivating property of the experimental subjects compared with that of the controls.

Method

Method of testing the penicillin-inactivating property of the sera—To each ml. of the patient's serum as well as the control serum, 2 units of crystalline penicillin G in physiological saline were added. After one and half hour's incubation at room temperature (30°-32°C), the serum-penicillin mixture was serially diluted in nutrient broth so as to give falling concentrations of penicillin such as 0·2, 0·1, 0·06, 0·04, 0·03, 0·02, 0·01 and 0·005 units respectively per ml. of broth. The tubes were inoculated with one drop of eighteen hours' growth of Oxford strain of staphylococcus, and reading of 'growth' or 'no growth' was made after 40 hours' incubation at 37°C. The dilution which showed inhibition of growth of staphylococcus, served as indication of penicillin inactivating property of the serum. The higher the concentration of penicillin in the mixture required, the greater was the inactivation of penicillin by the sera. Emphasis was put more on the comparative inhibitory capacity of the sera of the experimental subjects matched with that of the controls, rather than on the actual dilution showing inhibition.

The reliability of the tests was checked by the use of a known unitage of a penicillinase preparation along with normal serum and putting up the mixture with penicillin, and subsequent dilution done in the manner indicated above.

Results

Altogether 26 sera of the experimental subjects and 7 sera of the control cases were tested. The experimental sera were tested in batches along with a control serum in each batch. Table 1 shows the number of samples of sera inhibiting staphylococcal growth at different concentrations of penicillin.

Table 1—Showing Inhibition of Staphylococcus at Different Levels of Penicillin Concentration after Mixing with Sera of Subjects

Units of penicillin per ml. of broth	Number of sera							
	0·2	0·1	0·06	0·04	0·03	0·02	0·01	0·005
Group 1 sera	1	1	5	6	Nil	1	Nil	Nil
Group 2 sera	Nil	Nil	1	1	1	3	Nil	Nil
Group 3 sera	Nil	Nil	Nil	Nil	2	4	Nil	Nil
Control sera	Nil	Nil	Nil	Nil	4	3	Nil	Nil

On comparing the highest dilution of the serum-penicillin mixture inhibiting staphylococcal growth in experimental cases with that of the control one in the same experiment, penicillin-inactivating property of the experimental sera could be determined. As a result, some sera were found to be capable of inactivating penicillin in varying degrees, some behaved like control sera, and two sera actually augmented the staphylococcus inhibiting effect of the added penicillin in comparison to the control serum. From the results indicated in Table 1, penicillin-inactivating capacity of the individual sera were computed. Table 2 shows the different effects the sera exerted on the added penicillin.

Table 2—Showing Incidence of Penicillin-inactivating Sera among the Three Groups of Subjects

	Group 1	Group 2	Group 3
Sera showing penicillin-inactivating effect	13	3	Nil
Sera showing penicillin indifferent effect (i.e. behaved like control sera) ...	Nil	3	6
Sera showing penicillin-augmenting effect	1	1	Nil

In addition to the computation of the penicillin-inactivating capacity, actual quantitative expressions were sought to be obtained regarding the degree of inactivation obtained by individual sera. This was done by comparison of the performance

of the test sera with that of the control one in the same experiment. The results are shown in Table 3.

TABLE 3—SHOWING THE DEGREES OF PENICILLIN-INACTIVATION OBTAINED WITH DIFFERENT SAMPLES OF SERA

Units of penicillin inactivated per ml. of sera	Number of sera			
	1·7	1·4	1·0	0·5
Group 1 sera	1	2	5	5
Group 2 sera ...	Nil	Nil	1	2
Group 3 sera ...	Nil	Nil	Nil	Nil

DISCUSSION

As early as 1952 attention was focussed on the problem of decreasing penicillin activity in individuals previously treated with penicillin (Irragang and Fischer, 1952). During the last few years many experiments were performed to demonstrate the effect of penicillinase on penicillin *in vivo*. Becker (1956) employed a penicillinase preparation intramuscularly to inactivate *in vivo* penicillin. He demonstrated that blood level of penicillin could be reduced to zero within one hour after injection of penicillinase. In another experiment (Tackling, 1954) it was shown that bacterial strains, that strongly produce extracellular penicillinase when occurring together with penicillin-sensitive bacteria in a local focus of infection in rabbits, inhibit the effect of penicillin on these penicillin-sensitive bacteria, and this effect could be demonstrated even when a high dosage of penicillin was used. As bacteria with potentiality of producing penicillinase may be present in any human individual, it is not irrational to think that as a result of repeated penicillin administration, population changes in bacteria, either in the way of enzyme induction or mutation followed by selection, may occur, and more and more amount of penicillinase is thrown into the circulation in the event of subsequent injection of penicillin. This causes destruction of some amount of penicillin in the circulation, thereby causing depletion of penicillin available for destroying the infecting organism for which penicillin is administered. If the number of such penicillinase-producing bacteria happens to be high in individuals receiving penicillin, a penicillin-sensitive organism causing infection in that individual may not be inhibited by the remnant of penicillin left in the circulation, and such organism may falsely appear to be penicillin-resistant.

The findings of the present work suggest the possibility of such happening in some cases. Sera of 13 patients who had definitely taken penicillin before, showed that they possessed the ability to cause inactivation of some amount of penicillin. Variation in their ability to inactivate penicillin may be due to several factors, such as number of previous penicillin therapy, preponderence of penicillinase-producing organisms in the body, and other complex factors of mutation or enzyme adaptation. Amongst such organisms, penicillin-resistant *Staphylococcus aureus* may not play a major role as they produce penicillinase which is intimately connected with the cells (Barber, 1957).

In calculating the amount of penicillin that the sera neutralised per ml., it is realised that if the tests were put up with closer ranges of dilution of serum-penicillin mixtures, than they had actually been put, the results would have been more accurate. However, the findings of the tests show distinct difference between the sera of different groups of experimental subjects and those of the controls in their behaviour to penicillin.

Apart from the microbiological method, followed in the present work, there are other methods of penicillinase assay (Tucker, 1954 ; Royce *et al*, 1952). Reading of the results of the tests was taken after 40 hours' incubation as has been advocated by the Council of Pharmacological Society of Great Britain (1952). For optimum penicillinase activity, workers in this field have used different temperature and pH (Royce *et al*, 1952 ; Henry and Housewright, 1947 ; Council, 1952). In the present work, one and half hour's incubation at room temperature (30°-32°C) seemed to have worked satisfactorily as regards penicillinase activity because the preparation of penicillinase added to normal serum with known amount of penicillin, put up along with each test, inactivated penicillin almost to its declared potency. Blood of patients was collected 11 hours after the last injection of penicillin when the blood is not expected to contain any detectable amount of penicillin (Valentine and Shooter, 1954).

It could not be satisfactorily explained why sera of two patients, one each of Group 1 and Group 2 showed more penicillin inhibitory effect on staphylococcus than the control sera. One of these patients was a case of allergy receiving penicillin for an infective process. The other case was found to have received the two doses of penicillin preceding blood collection at rather shorter intervals than the other cases.

However, leaving aside these two cases, the present work showed that sera of patients under

penicillin therapy who received penicillin on previous occasions developed different degrees of ability of inactivating penicillin. The probability is that this is due to the presence of penicillinase in the sera. But at the same time it is realised that other possible factors such as development, in these cases, of antibody to penicillin causing this penicillin inactivation, were not ruled out in the present work. Recently circulating antibody directed against penicillin has been demonstrated in patients who had previously received penicillin (Lay *et al*, 1958), but its nature and precise role in the causation of penicillin inactivation are yet to be found out. But whatever be the mechanism of penicillin inactivation in these cases, the results reported in this communication indicate that there might be need for reorientation of dosage schedule of penicillin.

Summary

During the course of penicillin therapy, 26 sera were collected from patients with 'definite history', 'doubtful history' and 'no history' of previous penicillin injections and the blood was collected 11 hours after the previous dose of twelve-hourly crystalline penicillin injection. These sera were tested by microbiological method of assay for evidence of any penicillin inactivating capacity analogous to that of penicillinase.

13 out of 14 patients with 'definite history' and 2 out of 6 patients with 'doubtful history' of previous penicillin therapy, showed that their sera had the power to inactivate varying amounts of penicillin, while none of the patients with 'no history' of previous penicillin therapy showed any such effect.

Acknowledgment

We are indebted to our Director, Dr. R. N. Chaudhuri and other physicians of the Carmichael Hospital for Tropical Diseases, Dr. S. K. Sen and Dr. J. C. Banerjea of Calcutta Medical College Hospitals and Dr. B. Chowdhuri, Dr. M. L. Ghosh and Dr. B. Majumdar for providing suitable patients to us. We also thank Dr. S. P. De of Central Drugs Laboratory, Calcutta, for supplying us a penicillinase preparation of known potency.

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CASE NOTES

HIATUS HERNIA SIMULATING CORONARY INSUFFICIENCY

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Matunga, Bombay

Introduction

Hiatus hernia produces varieties of symptoms. It may cause epigastric distress especially during or after meals, dysphagia, heartburn, nausea, vomiting, small haemorrhages. Pain may be referred to the left shoulder tip. Extreme discomfort is often relieved either by vomiting or eructation. There is chronic dyspepsia and palpitation, sometimes angina-like symptoms are noted, and the patient may get severe retrosternal pain, fall or rise of blood pressure, fast pulse, perspiration, and extreme discomfort, cyanosis and dyspnoea. The attack usually starts after a heavy meal or feast especially when the patient is sleeping in bed. The attack simulates coronary insufficiency or even coronary thrombosis especially in elderly patients. Proper history and radiological findings can differentiate these conditions. These cardio-respiratory symptoms should be differentiated from true cardiac conditions like coronary thrombosis or pneumothorax.

There may be loss of weight or hiccup. The heart may be displaced and there is hyperresonance note in the lower third of the left lung.

Malherbe (1958) described three cases of hiatus hernia in which the presenting symptoms were itching and pain in the ear. Pain is referred as both the oesophagus and the external auditory meatus are supplied by the vagus nerve. In his series, the pain subsided after surgical treatment of the hernia.

Fisher and Johnson (1957) carried out extensive researches and oesophagoscopy. They noted abnormality of the mucosa, regurgitation of the gastric content, redundancy of the mucosa and patulous cardiac

orifice. The treatment depends upon the condition of hernia.

Atkinson *et al* (1957) have made manometric study of oesophagogastric sphincter in hiatus hernia which provides more dynamic picture of the sphincter mechanism at the oesophagogastric junction.

Diaphragmatic hernia is usually on the left side and may be a congenital or acquired maldevelopment. The acquired type usually occurs after traumatic wound or after oesophagitis where the oesophagus is short and there is degeneration of the oesophageal ring of the diaphragm. In para-oesophageal hiatus hernia the oesophagus is normal. In oesophageal hiatus hernia the oesophagus is short.

The condition is rare and is usually unsuspected. Diagnosis is made by barium x-ray of the oesophagus and stomach in Trendelenburg and stooping positions. The small intestine, colon, omentum, spleen, etc., may be found intrathoracic.

Case Report

A male patient aged 56 had chronic indigestion and flatulence. At night during sleep after a heavy meal he used to get severe substernal pain referred to the left shoulder associated with perspiration, restlessness and dyspnoea. The attack usually subsided after antispasmodics, alkaline powder, vomiting or gas eructation and the pain gradually lessened. Next morning he felt all right.

On examination he had tenderness of the left costal arch and there was slight swelling of that side. During the pain blood pressure was 170/110 mm. of Hg. Pulse rate was 100 per minute and respiration rate 26 per minute.

From the history and clinical examination he was diagnosed as a case of coronary insufficiency. Electrocardiogram showed depressed ST segments in leads I, II, aVF, V4, V5, V6 and left axis deviation. There was high voltage of QRS complex in V leads (Fig. 1, *vide* Plate).

He was put on coronary vasodilators, aminophylline, serpasil, but no improvement was noted and the pain often recurred. Then the x-ray examination of the stomach after barium meal was made in the Trendelenburg's and stooping positions (Figs. 2 and 3, *vide* Plate) which showed bulging of the fundus of the stomach above the diaphragm, and also the mucous pattern extended above the diaphragm, showing hiatus hernia.

The patient was thus diagnosed a case of hiatus hernia which used to displace the heart and produce symptoms of coronary insufficiency.

He was given antispasmodics, carminatives and enzyme preparations. He was advised to take small feeds and to sit in semi-Fowler position after meals and after this he felt better. For the last two years he had no recurrence of such attacks.

Discussion

Hiatus hernia due to its varieties of symptoms is often unsuspected and misdiagnosed as hyperacidity, peptic ulcer, chronic gall bladder trouble, intestinal obstruction, appendicitis, pneumothorax, coronary heart disease and ear trouble. Worst of all is a diagnosis of coronary disease, where the patient is unnecessarily asked to take rest and give up activities and drugs for the cardiac condition are prescribed. Moreover anxiety and tension of heart troubles are well known. Radiology is a very useful means of diagnosis and also a guide to treatment. Simple cases usually respond to medical treatment while others require surgical interference.

Summary

A case of hiatus hernia producing symptoms of coronary heart disease is recorded.

A brief review of hiatus hernia is given.

Dangers of misdiagnosis are stressed.

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PSEUDOTUMOURS OF THE ORBIT*

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Medical College Hospital, Calcutta

Pseudotumours of the orbit are granulomas of chronic inflammatory origin, of unknown aetiology and clinically characterised by unilateral exophthalmos, presenting the picture of orbital tumours.

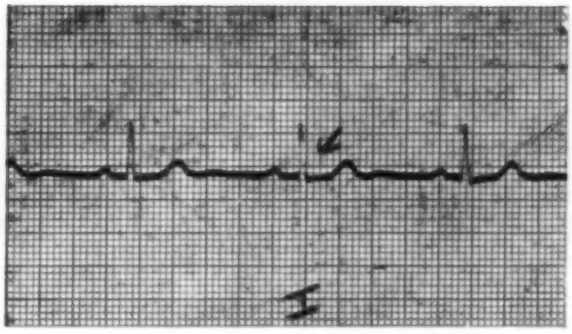
The pathology of pseudotumours of the orbit is similar to that of granuloma of chronic inflammatory origin, and variation in different cases is limited to an increase or decrease of one or the other of the constituent elements. Fibrosis is one of the important features of this disease. Between and around the fibrous tissue scattered foci of lymphocytes are present, actual lymph follicles being occasionally found. Blood vessels in different stages of maturity are seen in large numbers. The intima shows marked proliferation. The media and adventitia show thickening and sclerosis.

Two such cases attending the Eye Infirmary of the Medical College, Calcutta, are reported below.

Case Reports

Case 1—A male patient was admitted with unilateral exophthalmos of the left eye and pain in the left side of the forehead for 3 months. He also complained of dimness of vision of the left eye for one month.

* Presented at the clinical meeting of the Ophthalmological Society of Bengal, November 1959.



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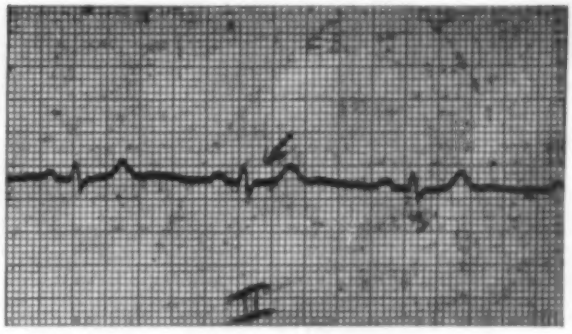

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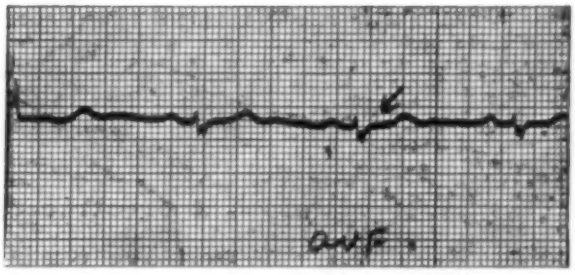

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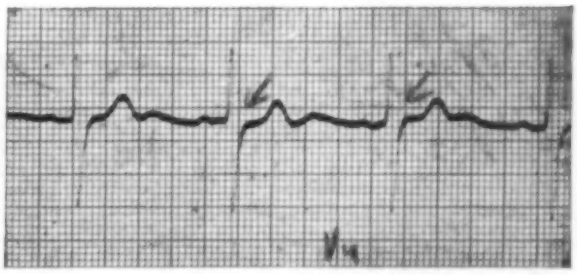

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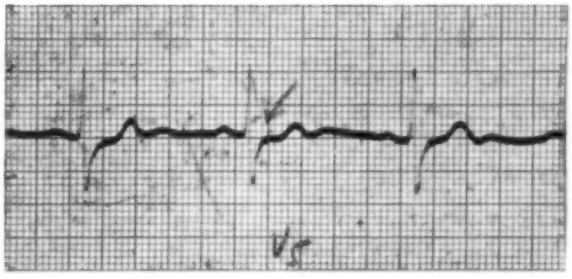

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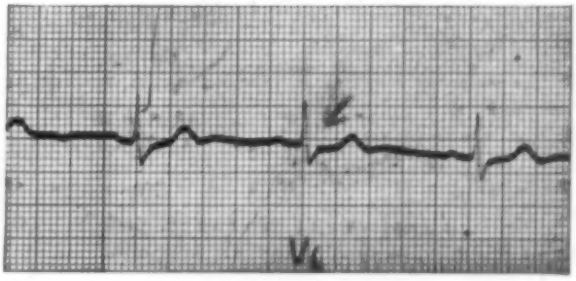

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Fig. 1

KAMDAR—*Hiatus Hernia Simulating Coronary Insufficiency (p. 309)*

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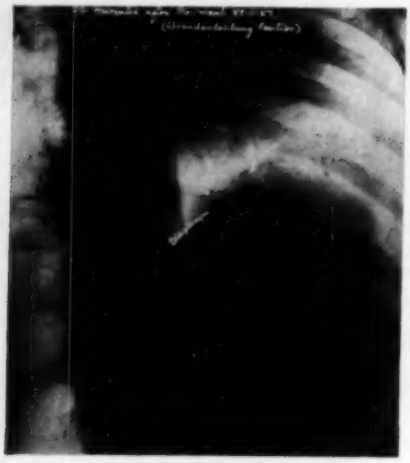

Fig. 2

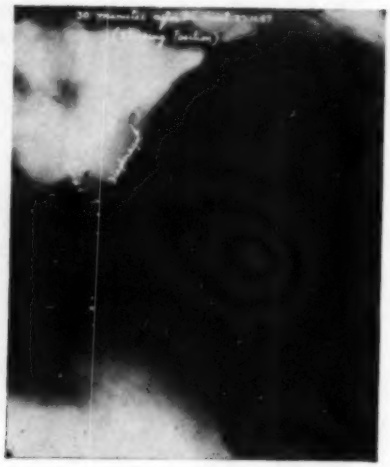

Fig. 3

KAMDAR—*Hiatus Hernia Simulating Coronary Insufficiency* (*p. 309*)

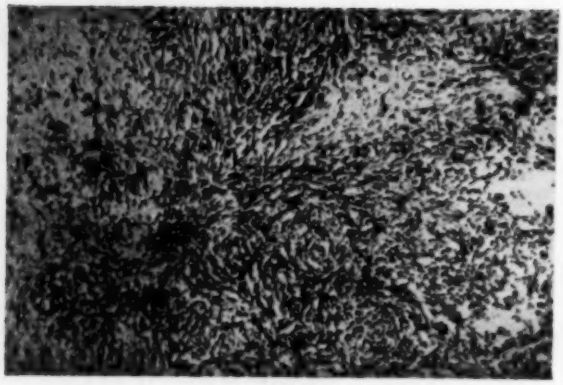

Fig. 1

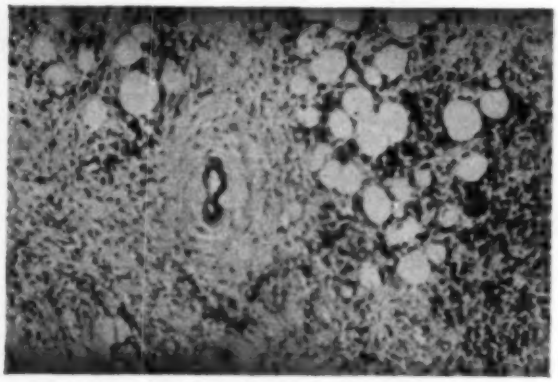

Fig. 2

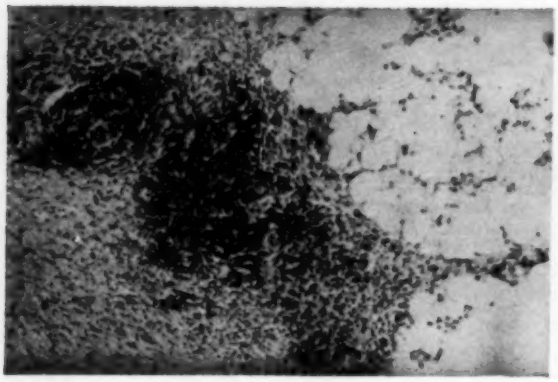

Fig. 3

Fig. 4

DAS—*Pseudotumours of the Orbit* (*p. 310*)

Examination—In the left eye the lids were slightly swollen, the conjunctiva congested, the pupil reacting to light, the lens clear, and the eyeball was directed down and in with the movements restricted. A firm swelling on the lateral side of the eyeball, about ¾" in length, could be detected. The posterior limit of the swelling could not be felt, The pre-auricular and other lymph nodes were not enlarged. V=6/24. The skiagram of the left orbit showed no bony abnormality. The skiagram of the left antrum showed only mucosal thickening. The antrum was explored later on and showed no gross abnormality. Teeth were bad and some of them were extracted.

The right eye was normal in all respects.

The blood pressure was 130/75 mm. Hg. Serologic tests for syphilis were negative. W.B.C. —6,800 per c.mm. with polymorphs 70 per cent, lymphocytes 26 per cent, monocyte 1 per cent and eosinophils 3 per cent. Haemoglobin was 70 per cent, R.B.C. 3,780,000 per c.mm. E.S.R. was 40 mm. on average. Perimetry and scotometry showed no field change.

The patient had a long course of penicillin and streptomycin injections but with no effect on the pain and the swelling of the orbit.

Lateral orbitotomy was done under general anaesthesia. A fleshy mass with patches of haemorrhage extending from behind the eyeball to the orbital tissue even up to the bone could be felt during operation. The growth was adherent to the medial wall of the orbit and the inferior orbital fissure.

Section showed the picture of inflammatory pseudotumour of the orbit.

Case 2—A male patient aged 17 years was admitted with proptosis and pain of the left eye for one and half months.

Examination—In the left eye the lids were swollen, the conjunctiva chemosed, the pupil reacting to light, the tension normal and the eyeball directed down and in. A firm mass could be felt in the lower part of the left eyeball through the lower lid. The lymph nodes were not enlarged.

The right eye on examination revealed no abnormality.

The skiagram of left orbit showed no bony abnormality. Nothing came out on aspiration of the left antrum.

W.B.C. was 6,625 per c.mm. with polymorphs 60 per cent, lymphocytes 36 per cent, monocyte 1 per cent and eosinophils 3 per cent. E.S.R. was in the first hour 90 mm. which came down to 50 mm. after penicillin-streptomycin treatment.

Lateral orbitotomy revealed a big retrobulbar mass. A part of the mass was removed for biopsy.

Section showed the picture of inflammatory pseudotumour of the orbit.

Microsections—Four microphotographs prepared from the tumours removed show typical picture of pseudotumour of the orbit. Fig. 1 (*vide* Plate) shows chronic inflammatory cells with fibrosis. Fig. 2 (*vide* Plate) shows dense aggregation of chronic inflammatory cells. Fig. 3 (*vide* Plate) shows lymph follicles and some fat necrosis. Fig. 4 (*vide* Plate) shows chronic inflammatory tissue around blood vessels and nerve fibres. Fat cells are also seen.

Discussion

Pseudotumour of the orbit is rare. Unilateral proptosis is a constant presenting sign. The proptosis is not reducible and the onset is rapid. In one case the presenting symptom at first was diplopia. This can be explained by the fact that a pseudotumour sometmes arises in one or more of the extra-ocular muscles. The associated symptoms and signs are pain, swelling of the lids and chemosis of the conjunctiva. The severe pain in some cases can be explained on the ground that the nerve fibres were infiltrated by chronic inflammatory cells.

In each case there was a clinically palpable, well-localised, and firm orbital mass which could be felt by displacing the globe. Limitation of movement was present either in one or other direction.

In all cases the vision was worse in the affected eye, though not to a marked degree. Fundus examination showed only pallor of the disc.

In none of the cases, the special investigations in the form of blood examination, x-ray examination, etc., helped in the diagnosis of the disease.

The aetiological factor is difficult to find out. In one of the cases the whole retrobulbar mass was so much adherent to the walls and the floor of the orbit that the eyeball had to be sacrificed on the suspicion of malignancy. Another case showed much relief of pain after extraction of ten bad teeth.

In the majority of the cases it is difficult to differentiate it clinically from true neoplasm of the orbit until biopsy is done.

Summary

Two cases of pseudotumour of the orbit are reported.

Acknowledgment

My thanks are due to Dr. M. Sen Gupta, Assistant Professor and Dr. P. K. Sarker, Pathologist, Eye Infirmary, Medical College Hospitals, Calcutta, Dr. S. N. De, Professor of Pathology, Calcutta Medical College, and Dr. S. C. Bose, Principal and Superintendent, Calcutta Medical College and Hospitals for permission to publish this paper.

JOURNAL OF THE
INDIAN MEDICAL ASSOCIATION

CALCUTTA, APRIL 16, 1960

PROPOSED BILL FOR THE PREVENTION OF CRUELTY TO ANIMALS

The provisions of the existing law on this subject, viz., Prevention of Cruelty to Animals Act, 1890 (Act II of 1890) and the numerous State Acts and Rules, are considered by many to be neither comprehensive nor inclusive of all cruelties which are controlled or outlawed in many advanced western countries. In the background one has also to consider the basic doctrine of *Ahimsa* as preached in India for centuries.

To meet this changed outlook, Srimati Rukmini Devi Arundale moved a private member's bill in Rajya Sabha on March 5, 1954. During the introductory debate on this bill the Prime Minister gave an assurance that the Government of India would soon "appoint a committee to consider the various things contained in the Bill", and the same was then withdrawn by the mover.

Accordingly, on August 16, 1954 the Government of India in the Ministry of Food and Agriculture appointed a Committee for the Prevention of Cruelty to Animals (hereinafter called CPCA), consisting of 8 members of Parliament, 1 representative of the indigenous school of medicine, and 4 government officials. The CPCA submitted its report on January 24, 1957, which was later published. The present official Bill No. VII of 1959 (hereinafter called the Bill) is based mainly on this report.

The Bill has six chapters and 40 clauses. The earlier clauses deal with scope, extent, dates of commencement and definition of certain terms used in the text. In the body of the Bill, "unnecessary pain or suffering" has been used for the word "cruelty". Chapter II (clauses 4 to 10) deals with establishment, constitution, terms of office, funds, functions and power of the Animal Welfare Board. Chapter III (clauses 11 to 13) lays down the various acts of omission and commission which may constitute "cruelty to animals generally.". Chapter IV (clauses 14 to 20) and chapter V (clauses 21 to 27) deal respectively with "Experimentation on Animals" and "Performing Animals". Chapter VI (clauses 28 to 40) lays down details of procedural matters for enforcement of the law after enactment.

The statement of "objects and reasons" appended to the Bill states that the CPCA drew attention to a number of deficiencies in the Prevention of Cruelty to Animals Act, 1890 and suggested its replacement by a more comprehensive Act. The existing Act applies only to urban areas within municipal limits, and contains no provision for prevention of cruelty to animals other than domestic and captured animals. It covers only certain specified types of cruelty to animals, and penalties for certain offences are inadequate.

The proposed Bill by repealing the existing Act gives effect to such recommendations of the CPCA as have been accepted by the Government in respect of which central legislation can be undertaken. It declares certain types of cruelty to animals as offences and provides necessary penalties for them and makes some of the more serious ones cognizable. The Bill also contains provision for (a) the establishment of an Animal Welfare Board for promoting measures for animal welfare ; and (b) the establishment of a Committee to control experimentation on animals when the Government, on the advice of the Animal Welfare Board, is satisfied that such measures are necessary. It also contains provisions for licensing and regulating the training and performance of animals for the purpose of any entertainment to which the public are admitted through sale of tickets.

Besides removing the loopholes in the existing Act and widening its field of application, the proposed Bill has two novel features, viz., (1) constitution of the Animal Welfare Board and (2) institution of control over animal experimentation carried out by medical and scientific workers. Everybody will admit the need of preventing cruelty in any form towards dumb and helpless animals, and the creation of the Animal Welfare Board, for this purpose is welcome. In order to function properly and carry out consistently the onerous duties assigned to it, the Board must include members representing the medical and ancillary bio-sciences and the inadequate amount of the *ad hoc* annual grant for the first two years of Rs. 25,000 for this Board from the Consolidated Fund has to be increased considerably.

But the imposition of supervision and control over animal experimentation is wholly unjustified. The number of medical and other scientific workers in India who carry on experimentation on animals is insignificantly small. Further, it is unbelieveable that they are so indifferent, heartless or cruel as to deserve check or control by legislation. In the

year of grace 1960, with the availability of quite a good number of anaesthetics and analgesics the infliction of pain and suffering during cutting operations on any living organism has been reduced to the minimum.

Except in England and the Netherlands, the law for the supervision and control of animal experimentation is very liberal, allowing wide freedom of action to the scientists. The U.S.A. and the U.S.S.R. which are very scientifically advanced today have no such legislation—for the simple reason that it can serve no useful purpose. The futility of such restraining legislation is proved by the reports of the Royal Society for the Prevention of Cruelty to Animals and other humanitarian organisations in London which state that "the supervision of experiments carried on under the license granted under the U.K. Cruelty to Animals Act of 1876 is extremely inadequate."

The CPCA in their report to the Government of India dated January 24, 1957 records the following views of eminent Indian scientists on the need, if any, of legislation to regulate animal experimentation in India:

"The scientists whose views are available with the Committee have generally opposed the imposition of any restrictions, legislative or otherwise, on animal experimentation in India for the following reasons:

(i) India is very much behind other advanced countries of the West in the matter of scientific and medical research. There are very few institutions in the country which are engaged in carrying on research on animals and in producing sera, vaccines, drugs, etc. The effect of legislation will be to impede the progress of the little research work that is being done in the country and this will be highly detrimental to its interests. Moreover, almost all the medical research institutions in the country are at present controlled by Government in one way or another.

(ii) In this age of the increasing use of anaesthesia in experimentation on animals, the necessity of having a law with the object of preventing pain and suffering caused to animals during experimentation, hardly arises.

(iii) The amount of work relating to animal experimentation being done at present in India is not so much as to justify the appointment of a host of inspectors or any other enforcement staff who will have to be appointed under the law to enforce it.

(iv) Such a law will be difficult of enforcement and will, therefore, fail to achieve its purpose. Besides, the inspectors in their zest to exercise their powers will unnecessarily harass the scientific workers and thus harm the cause of scientific research.

(v) Some of the institutions in the country are manufacturing important biological products for which India was previously dependent upon other countries. Certain biological products still continue to be imported from outside, although serious efforts are being made to increase their internal production so as to make the country self-sufficient. The imposition of legal restrictions is bound to interfere with the manufacture of such products.

(vi) There would be an interference with the effective teaching of biology and medicine in schools and colleges, as this particular aspect might also come under the purview of the law.

(vii) The number of animals used in all the scientific institutions in India forms a negligible fraction when compared with those used for human consumption or which die a natural death.

(viii) The housing, feeding and breeding of experimental animals are well looked after in the institutions."

We fully concur with the views and sentiments expressed in the above summary. Nothing could be more detrimental to the interest of medical and other bio-sciences and the progress of science in India generally than to enact this law with the chapter entitled "Experimentation on Animals". This chapter should be completely deleted. Its recommendation for the control of animal experimentation in the teaching of biology and medicine in schools and colleges can hardly be supported. The provision in this chapter is bound to hamper the progress of sciences by animal experimentation and lower the standard of medical teaching and research. It will also interfere with the manufacture of biological products like sera and vaccines in this country. The enactment of such legislation will put positive impediments on scientists.

This unwarranted control over animal experimentation is bad in principle and unworkable in practice, as has been proved in the U.K. This approach to the question of cruelty to animals is unrealistic so far as the question of *Ahimsa* is concerned, for the total number of laboratory animals used for experiments during a whole year is insignificantly less than the number of buffaloes, cattle, goats, sheep and pigs killed daily for human consumption. Further, the Bill does not provide for any relief in the prevention of avoidable pain and suffering to animals perpetrated daily, prior to slaughter.

Much of the mischief lies in the exemption clause (clause 14) which is most inadequate so far as the protection to laboratories, institutes or workers engaged in the production of vaccine and sera are concerned. For it does not cover administration of drugs or bacterial or viral substances to the animals, or bleeding them or performance

of surgical operations—i.e. the technique employed in the routine manufacture of sera and vaccines.

We recommend that chapter IV be entirely deleted. If it has to be retained at all, it needs careful redrafting to cover the points raised in the preceding paragraphs. Clause 14 needs the most complete and careful drafting in order that persons engaged in the production of sera and vaccines are also exempted from the operative clauses. Animal experimentation is also essential in the teaching of modern medicine and in biosciences. Unless this chapter is carefully redrafted, the Animal Welfare Board, which is composed of a majority of non-scientist and non-technical members will hamper the progress of scientific work in India, rather than help in the prevention of "cruelty to animals". Moreover, the overzealous and non-scientific inspecting personnel appointed by the Board, in trying to uphold certain seemingly good turn, may actually set back the hand of scientific progress in the country.

We appeal to the legislature and the Government to reconsider in the interest of science and human welfare, the obnoxious clauses of the Bill and delete clauses 15 to 20 of Chapter IV (Experimentation on Animals), and redraft clause 14 in the light of criticisms made. It is a pity that the Select Committee of both Houses of Parliament has failed to alter or improve clauses 14 to 20 of the Bill.

SHORT SERVICE COMMISSION IN THE ARMY

The letter from Dr. G. K. Kulkarni published elsewhere in this issue in respect of granting Short Service Commission to our young medical graduates is timely and deserves serious consideration by all concerned. At the last All-India Medical Conference, held at Indore, a suitable resolution was passed urging upon the Government to absorb all Short Service Commissioned medical personnel in the permanent cadre.

In spite of an overall shortage of medical practitioners in India, the appalling unemployment and underemployment amongst the junior medical graduates have compelled many of them to leave the shores of India in search of gainful employment elsewhere and also to apply for Short Service Commission in the Defence Service of India.

It is well known that Government is an ideal employer but looking at the unfortunate condition of our graduates in Short Service Commission we are reluctant to believe in it. The lure of Army Commission is really great for a fresh inexperienced graduate. He joins the service with many a cherished dream but alas in what a pitiable condition he is thrown into after six or seven years! The high standard of living in the Armed Services prevents him from saving a reasonable amount and moreover in great many instances he does not gain any professional experience. As such, when released after six or seven years he finds plenty of difficulties in settling himself suitably either by getting a remunerative job or by starting private practice. He has really wasted very precious days of his life.

The medical officers in the Armed Forces are very essential for the morale of the troops both in war and in peace. Hence it is desirable that the members of the Indian Army Medical Corps. must be in permanent service. In emergency no doubt every country recruits temporary personnel to meet the growing demands as it is well known that emergency knows no law. But in peace time, utilisation of doctors in temporary cadres should be resisted with all emphasis.

Government should appoint all medical officers for a probationary period of one year after suitable tests and if any of them is found unsuitable he should be released after this probationary period; the rest should be absorbed in the permanent cadre. For the present we urge upon the Government to absorb all Short Service Commissioned Officers in permanent cadre to prevent utter frustration among the young medical men.

I.M.A. PRESIDENT'S VISIT TO MADRAS AND SITAPUR

The Madras City Branch and the Sitapur Branch under the U.P. State Branch celebrated their Silver Jubilee during the first fortnight of February 1960. Dr. H. N. Shivapuri, President of the I.M.A., left for Madras on the 3rd February, 1960 and returned on the 10th after inaugurating the Jubilee Celebration. The inaugural speech delivered on 6-2-60 is appended. The Jubilee Celebration lasted for two days (February 6 and 7) and was very sucessful. A Scientific Section was organised in this connection. A feature of the programme was the sports events organised on the second day for and by the members of the Indian Medical Association, Madras. The function suffered a setback by the death on the eve of the celebration of Col. Pandalai, one of the founders of Madras Branch, one-time Vice-President of the Indian Medical Association and a well-known surgeon in Madras. Dr. Shivapuri placed a wreath on his body on behalf of the Indian Medical Association.

During his stay at Madras Dr. Shivapuri laid emphasis on the need for further collection of donations for the I.M.A. Building Fund from local members. He felt sure more money would soon be forthcoming from Madras for that Fund.

On 14th February Dr. Shivapuri visited Sitapur to attend the Silver Jubilee Celebrations of the Branch there. The function was very well organised and lasted from 12 noon to 6 P.M. As a result of his contact with the members, the President expected substantial donations from there also for the Indian Medical Association Building.

Inaugural Address by Dr. H. N. Shivapuri, President, Indian Medical Association at the Silver Jubilee of Madras City Branch, I.M.A.

MR. PRESIDENT, COLLEAGUES OF THE PROFESSION, LADIES AND GENTLEMEN,

"Let me help my fellowmen—that is all I seek.
Doing good to others out of compassion is good,
but the seva (service) of all beings in the spirit of the Lord is better."

—SWAMI VIVEKANANDA

I consider it an honour to be asked to inaugurate the Silver Jubilee Celebration of the Madras City Branch of the Indian Medical Association. It is my good fortune that I start my term of office with the Jubilee of one of our main branches in the country. The Silver Jubilee of another of our great Branches follows a fortnight later. A Jubilee is a landmark in the history of the life of anybody —be he an individual or be it an Association. It is also a time for introspection. Every Association starts its life with great aims and objects, hopes and fears. The Jubilee is an occasion for all its members to consider how far they have succeeded or failed to achieve the objectives. Thus we can either retrace our steps if we have made any mistakes or improve further upon our achievements. The history of our Madras Branch is a history of solid achievements. Starting its career in 1935, it has done a lot to unify the profession in Madras. Some of the giants of the profession have been its members and have moulded it into its present shape and strength. I do not want to make any distinctions, but some of the names are worth recalling. The Branch owes a good deal to Dr. U. Rama Rao, Dr. Tirumurti and a host of others. I regret I arrived here yesterday to mourn another of its founders, Col. Pandalai.

Let us not forget to-day these great names, the early builders and let us pay our tribute to their solid work which has enabled all of us to celebrate this Silver Jubilee to-day. Let us all stand up for a little while in their memory. I am happy that Dr. D. V. Venkappa, our G.O.M., is here with us to-day.

I have only very recently spoken at length at Indore as the President of the XXXVI All-India Medical Conference on some of the burning problems affecting the profession and the Medical and Public Health problems of our motherland. You would not like me to repeat all that again. I hope you have all had an opportunity of learning all that I said at the time. In any case it will soon be in the hands of you all. I have tried to represent Medical and Health matters, as also some of our difficulties as met with in our day to day working.

A medical man is usually a calm, steady and silent worker and generally shuns publicity. Even the newspapers look askance at us and our conference reports get scant publicity. But a medical man keeps on doing his duty unobtrusively and without fuss. Noble all professions are, but ours is the noblest of them all. The Government as well as the public take full advantage of our spirit of service and our sense of duty, to our discomfiture. Even to the service members Government pays much less as compared to other important and vital services but expects them to be on duty all the 24 hours.

These are days of planning. We have copied the method from U.S.S.R., but we have not increased the efficiency of administration to any great extent, with the result that our planning is

haphazard and whatever planning is done and the sum provided in the annual budgets for schemes old or new, we are not able to utilise and fulfil the targets and large sums are every year left unspent. The usual blame is that sufficient personnel is not available, but whose fault is it if that is so? I do not agree that the deficiency in personnel is as much as advertised. At least medical men are available to a good extent but not at the meagre price of the Government. There is no chance of the Government succeeding at slave labour prices. The result is that governments in their wisdom go on opening more and more Medical Colleges and with more and more posts lying vacant and the congestion, unemployment and underemployment go on increasing in the profession from year to year. There will be no improvement in this position unless the outlook and the attitude of the Government towards the noble profession changes and we do not remain noble merely on paper but also in pay, prospects and prestige.

The administrative set up more or less remains as it was in the earlier years of the twienth century. This has to change and change quickly, if progress is to be maintained at a rapid pace. And the progress has to be rapid, if the country, is to make any headway towards Positive Health. The public is now wide awake and people will not tolerate much longer the inefficiency of the department. The corruption wherever it exists has to be rooted out with a strong hand.

On an occasion like this I do not want to burden you with the difficulties of the profession such as exist under the Shops and Establishments Act, Rent Control & Eviction Act, Sales Tax, Residential difficulties, Excise Rules, etc. I hope that such difficulties as exist will gradually disappear after discussion with a sympathetic Government. Then there is another set of difficulties of the profession such as unfair and unethical competition of Vaidyas, Hakims and Homoeopaths who have no Code to follow whereas we are all bound down by our Code of Ethics and the rules of Registration. Quackery is rampant in our country and the Government while preaching to us our duties, does nothing to curb the activities of quacks. On the other hand, it helps them in many ways such as the latest amendment to the Pharmacy Act and the rules under the Drugs Act, which can be enforced only against us but easily avoided by those against whom it should really be rigorously applied to save misuse and wrong use of active and strong drugs.

But to all our difficulties there is only one solution—the unity in the profession. "United we stand, divided we fall" is a very good old adage. The profession should give strength to the Association by joining in large numbers—nay universally. The Indian Medical Association should be a universal movement—a cent per cent membership fraternity and then only can we have the strength of the A.M.A. or the B.M.A. It is only then that we can force the hands of the Government to treat the profession properly and give proper wages to medical men in service. No one should consider himself big enough and keep outside. The opposite is equally true—no one should consider himself small enough and keep away from us. All are links in our chain of strength and each link is as necessary for us as the other. If all our members tried each year to add one more member to the Association, it will not be long before we attained our objective of universal membership of the profession. Our motto should be "Each one, add one".

Each one of us in his or her own way should

DR. H. N. SHIVAPURI, PRESIDENT OF THE INDIAN MEDICAL ASSOCIATION (*seated 4th from left*), INAUGURATED THE SILVER JUBILEE OF MADRAS CITY BRANCH, I.M.A.

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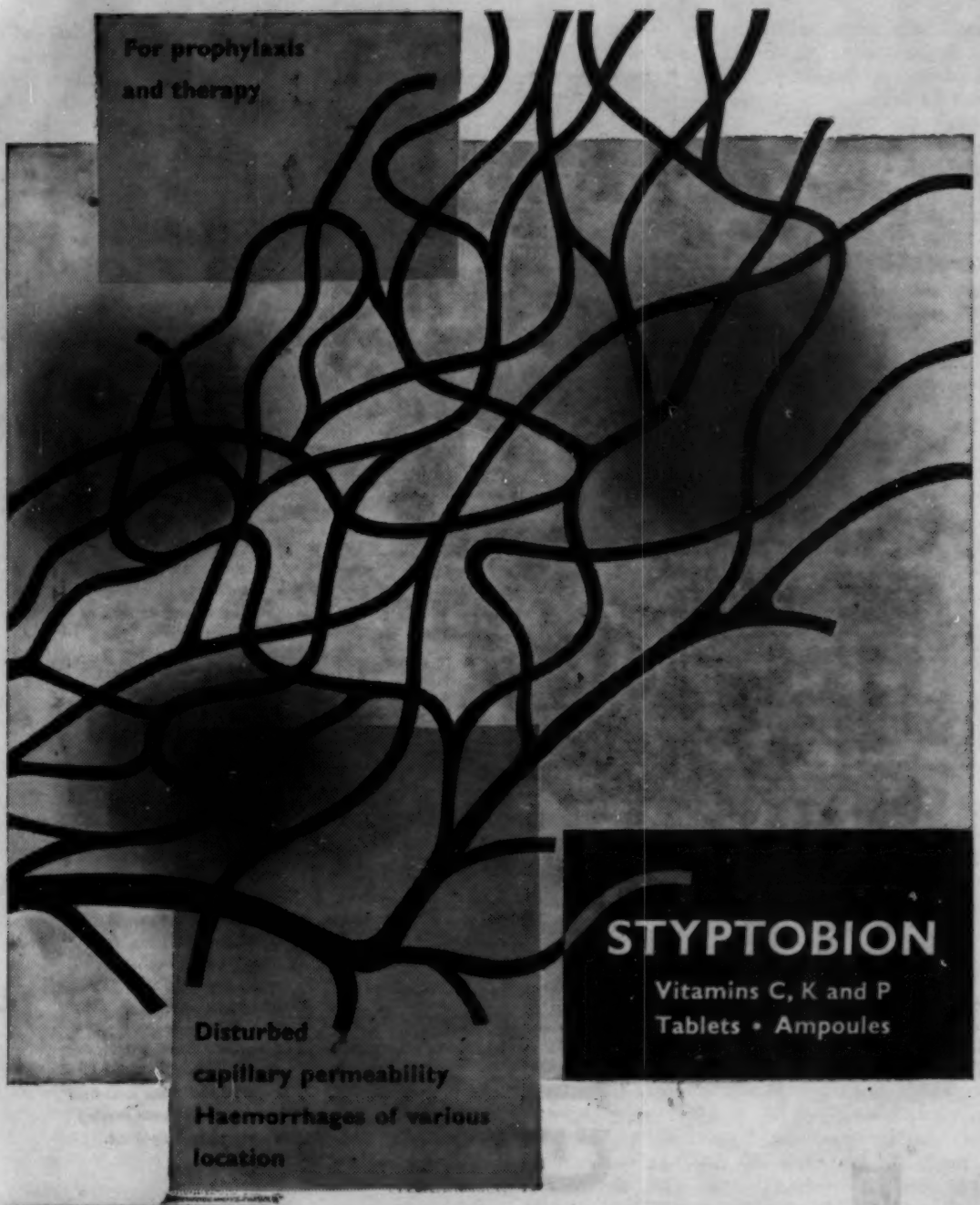

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help to strengthen the central organisation of the Association, as on the strength, enthusiasm and activity of that organisation depends the success or the failure of the Associaion. The best way to help is to continuously augment our Building Fund. We are grateful for the help already rendered by members but that is not enough and it is a matter of regret to me that a comparatively small sum like 10 lakhs has not so far been collected by us, although we have been trying to do so for the past several years. Rupees fifty is a paltry sum in the life of a Doctor and if every one of our existing members had contributed even that amount on an average the amount wanted would have been collected long ago. I appeal to you and to the profession as a whole to rise to the occasion and fulfil your duty and thus enable the Central Organisation to serve you better. Those of you, who have influence, can and should tap other ways also such as manufacturers and other rich sources. The earlier we can collect the amount the better for us.

While I am on the subject of Central Building Fund, I may here mention that I am very happy to learn that the Local Government is giving a plot of land free to our Madras City Branch for their building. I congratulate the Madras City Branch on this achievement and I thank and congratulate the Government on behalf of the Association on this recognition of the Association. I hope you will soon have a house of your own, worthy of the town of Madras.

Ladies and Gentlemen, ours is a profession of service—of noble service—to the rich and poor alike, and we do serve them to the best of our ability. We are often preached sermons, from all quarters including the highest, but we do not stand in need of such sermons. We know our duty. It should, however, be realised by such well-meaning people that a medical man is also a human being and has a home and a family to provide for. He only demands an adequate living comparable to payments in other walks of life. It is not possible to reduce the living standards only among the medical profession on the plea of service and the nobility of the profession. We do not ask for standards of payment as in other Western countries but only as are allowed to other technical professions and other important services in our own land. If standards have to be reduced, let them be for one and all and not only for the medical profession.

Recently when addressing the All-India Business men's Convention, our Prime Minister is reported to have asked them to approach the problems facing the country in a way ensuring speedy achievements of the Nation's goal and that such approach should not be dialectical or philosophical but one based on science, modern technique and co-operation. I perfectly agree with him in this and in his further advice that ways of thinking must adjust themselves to the fast changing times and that such an approach is not only desirable but is dictated by force of circumstances. I hope all Ministers of Health including the one at the centre and legislators will take this wholesome advice of their Chief and remember that this advice has a wider application and is much more true in the case of medical science and modern methods of treatment than merely for the business community.

The storm is brewing on the horizon and the horizon is at present dark and threatening. It may burst or may clear off. But in any case, we should take time by the forelock and keep ready for all eventualities. I am one of those who have always been in favour of compulsory Military Training. I would request you all to try and undergo the training—at least as many of you as are able to have it. It will not only improve the physique but will make us disciplined—a quality very badly needed in us as a nation.

I would request the profession to work in a spirit of service and according to our Code of Ethics. We must treat our patients sympathetically and in a humanitarian spirit, so that in return, we make the profession popular with the public.

Friends, times are changing and so are the trends of Medical Practice. The easy times and big practices of yore are now matters of the past. The future requires different but ethical methods and hard work. In the words of Swami Vivekananda "Let us all work hard, my brethren, this is no time for sleep. On our work depends the coming of the India of the future. She is there ready waiting. She is only sleeping. . . . . Arise and awake and see her . . . . . rejuvenated more glorious than she ever was—this motherland of ours."

"A new shower through the fields is going
And new seeds in furrows he's throwing
. . . . . .
And time will see our hope fulfilled."

—Boris Pasternak

With these words, Ladies and Gentlemen, I have great pleasure in inaugurating the Silver Jubilee Session of the Madras City Branch of the Indian Medical Association and wish you all the best of luck.

Jai Hind.

CURRENT TOPIC

XVI TUBERCULOSIS AND CHEST DISEASES WORKERS' CONFEFRENCE

The following is from the Presidential Address by Dr. P. K. Sen at the Sixteenth Tuberculosis and Chest Diseases Workers' Conference held at Poona on January 19, 1960 :

We are, at the moment, in a dangerous phase in regard to tuberculosis. The impact of industrialisation and of mass movement of population due to partition of the country has disturbed the barriers of village shelters mingling this ocean of humanity into one homogeneous mass. Tremendous efforts to make up past deficiencies and desire for better standard of living without parallel achievements are causing hardship both on the body and mind of our people. All these environmental and psychological causes make for greater inroads of tuberculosis in the country deeply indenting and increasing our problems. I do not see much chance of remission of all these stresses in the near future. Tuberculosis is, therefore, likely to spread its vicious tentacles far and wide and take heavy toll in human lives and sufferings if it remains unchecked at this vital period.

Our present load of tuberculosis and achievements so far must be taken into account first and thereafter, in that light, our campaign should be designed and developed.

Our Load

Infection—B.C.G. vaccination campaign in West Bengal till the end of 1958 showed in 13,37,366 tested persons, 21·4 per cent get infected by the age of 6 years and 32·7 per cent by the age of 14 years. I have no all-India figures in this respect. I do not expect those to be appreciably different.

Disease—Summarised findings of National Sample Survey (1955-1958) of 6 Zones on prevalence of pulmonary tuberculosis are as follows :

1. In cities, towns and accessible villages the rate of radiologically diagnosed cases of "active" and "probably active" tuberculosis varied from 13 to 25 per 1000 population.
2. The rate of bacteriologically positive cases for 1000 population varied from 2 to 8.
3. Prevalence rates in cities, towns and accessible villages were generally of the same order.

Assuming that this rate is roughly true for the whole of India, that the population of India is at present about 400 million, that 80 per cent of this population live in the villages of which four-fifths are in areas inaccessible to mass miniature x-ray van and that this rate for inaccessible villagers is half that of the others, the number of cases on such rough estimate will be as follows :

1. In cities, towns and accessible villages : 1·9 to 3·6 million.
2. In inaccessible villages : 1·7 to 3·2 million.

The total number of cases of pulmonary tuberculosis in the whole country will, therefore, be on a lower estimate 3·6 million, and on a higher estimate 6·8 million. Of these about one-third will be bacteriologically positive on testing a single sample of sputum.

Death—The rates are unknown and I prefer not to make any guess, though one-fifth of the morbidity rate may be accepted as this rate for rough calculation.

It may be correct to remember that this load is not static. From available information it may be justly assumed that the load will increase in the near future.

Our Achievements

1. *B.C.G. vaccination programme*—Till September 1959 a total of 135,223,784 persons were tuberculin tested and 47,387,334 were vaccinated.

2. *Clinics*—A total of 180 clinics have been established. Accepting a high estimate of about 2000 cases in each clinic, the total number of cases domiciliarily treated is about 360,000.

3. *Private Practitioners*—In addition, a number of cases are treated by private practitioners. This number may be even 4 or 5 times higher than that of the clinics totalling about 1,800,000 cases.

4. *Hospitals and Sanatoria*—There are about 25,000 beds. Assuming that all the beds remain filled, a total number of 25,000 patients are being treated in that way.

It may, therefore, be very roughly assumed that out of the 3·6 to 6·8 million cases, only about 2 million are known and are being treated in some way or other and the rest remain undiagnosed and untreated. This latter group, probably constitutes the greatest source of danger to the community and to themselves.

5. *After-care Colony and Rehabilitation Centres*—There are a few centres but their contributions, as yet, are so small that I need not expand on it.

These are our loads and achievements so far regarding pulmonary tuberculosis. We have adopted recognised methods of a control programme and I have nothing more to add. The

important problem, however, is where to lay the stress and how best to utilise and control the measures in our present circumstances.

B.C.G. Vaccination and Chemoprophylaxis

In a disease like tuberculosis no measure is comparable in effectiveness to those which improve the standard of living of the people and of sanitation. Let us consider the existing preventive measures and their suitability for mass use.

Case finding, segregation and treatment are all preventive measures as they eliminate the sources of infection. These are, generally, slow processes. On the other hand, any measure which can improve the resistance of the healthy population and can be much more quickly and widely employed should be regarded as a better method. Nothing else can bring down the rate of the disease more rapidly than such a measure, provided it is effective and safe enough. B.C.G. vaccination and chemoprophylaxis belong to this group and I intend to compare the merits of these two only.

There are many earnest advocates for and antagonists of B.C.G. vaccination. It would not be fair to brush aside all the criticisms levelled against it. I personally feel that in some respects our evaluation had been based on very reasonable assumptions but not on actual proof. This is because our fundamental knowedge on allergy and immunity is still very poor and exact experimentation on an adequate scale is extremely difficult. Many other criticisms are, however, quite unfair. When I consider it from all angles from existing literature, I feel our current knowledge is such that we should accept this measure as safe and also effective in terms of partial protection against tuberculous disease. B.C.G. vaccination has the great advantage of being cheap and very large fields can be covered within a short period.

Chemoprophylaxis has its earnest advocates also but, as far as I know, no one amongst them is quite sure of the feasibility of its mass use in a country with our kind of epidemiology. It involves single drug administration (INH) over a long period in people who have no clinical or radiological evidence of disease. Proper acceptance of such a measure by the persons and control of such a procedure by the administrators, are, therefore, most difficult.

The most suitable time for chemoprophylaxis is immediately following primary infection. In practice, this optimum period can only be determined by serial tuberculin testing of an individual from infancy onwards.

From these considerations one cannot escape the conclusion that our adoption of the mass B.C.G. vaccination programme is a step in the right direction. We still have to complete our first round. One must remember that this programme, to be effective, must continuously include the newcomers by birth and should not be stopped till, probably, the infection and disease rates fall to a great extent. I would, therefore, suggest that:

1. All the staff necessary for this scheme after completion of the first round, be absorbed in a permanent cadre of the Health Services in the State.
2. A responsible officer of the status of an Assistant Director of Health Services should be in charge of tuberculosis control in each State.

It is essential that a mass service programme of this type should continually be checked and guided by research programmes. In addition to the usual checks for potency of the vaccine, conversion rates, extent of allergy produced and a few other studies undertaken by the Research Team, I suggest the following:

1. *Change in the record for age groupings*—Currently the age groups are recorded as 0—6 years, 7—14 years, 15—24 years, 25 years and above. It is likely that the soil conditions determine the amount and quality of protection and liability to disease later and these conditions are different in different stages of life. For investigations in these lines at a later date it may be worthwhile to record age periods in terms of the newborn (0—1 month), infant (1 month—1 year), toddler (1—5 years), child (5—13 years), adolescent (13—19 years), adult (19—40 years), and old (40+ years).

2. *Tuberculin and Tuberculin test*—Inadequacy of tuberculin as a perfect specific antigen and difficulties in interpreting this test are becoming more and more apparent. All attempts should be made to develop a better antigen.

Also we depend on WHO for tuberculin. We should try to have our own. For all these our B.C.G. Laboratory should be adequately equipped.

We have not yet been able to define clearly what should constitute positive reaction. Further work in this line and a clear definition are urgent necessities.

3. *Studies on the result of vaccination*—It is essential that we assess our own results in terms of protection and complications, as these may vary under many different conditions. I concede that studies in these regards to arrive at a definite conclusion may be very difficult. But in a situation like ours, attempts must be made.

4. *Vaccination of the newborn and infants*—There is no doubt that vaccination of these groups

at the maternity hospitals and at the Child Welfare Centres will help mass vaccination programme appreciably.

5. *Oral vaccination and dry vaccine*—Use of oral vaccination and dry vaccine will also solve many field problems and will immensely help in quick coverage. Planned sample studies in all these should be started without delay.

6. *Keloid*—Post-vaccination keloid formation is fairly frequent—specially in some areas. Investigation into this subject seems important to me.

7. *Chemoprophylaxis*—It seems justifiable to set up well planned and controlled studies in a few centres only for the specially exposed groups like home contacts.

Domiciliary Treatment

In our Third Plan period this service is likely to be very much highlighted.

A fair amount of information is already available to justify a statement that up to the end of drug treatment and for a short period thereafter patients treated at home fare almost as well as the hospital treated cases. This experience is not limited to our country only.

In this country, initial report of comparative study of one year's treatment of 82 home and 81 sanatorium patients by the Madras Chemotherapy Project is now available. Their conclusion in their own words is "that the results of domiciliary chemotherapy, as carried out in this study, approach sufficiently closely the results of sanatorium treatment to suggest that it is appropriate to treat the majority of patients at home."

The most interesting findings in the assessment of the influence of different factors were that neither the environmental conditions like bad housing and overcrowding, nor the standard of living in terms of diet, etc., nor the standard of supervision and not even the state of ambulation had any appreciable effect on the result provided the drugs were taken regularly. All that mattered was the antimicrobial therapy, and to some extent, the character of the lesion. If these reflect truth, it must be conceded that the drugs alone can control the bacillary population and heal the disease to such an extent that no other factor can have any appreciable influence on the immediate result of the treatment.

There is, therefore, justification for optimism with regard to domiciliary treatment. Extensive use of this service may fulfil our dream of early control of tuberculosis.

I should, however, like to voice a note of caution for the present. We have very little knowledge of what happens to the *home contacts* if we allow a patient to be treated at home, even accepting that majority of such sources of infection may get liquidated in 3 to 6 months. A fairly long-term comparative study between the domiciliary and hospital groups in different parts of the country and in different strata of the society is necessary to come to any conclusion.

Extensive studies on the frequency of *fallouts, types and causes of irregularities in self-administration of drugs, frequency of emergence of drug-resistant strains and long-term relapse rates* specially in relation to irregular drug taking, must be undertaken before we can more confidently launch this service programme in a nationwide scale. The most suitable drug regimen for domiciliary service and average cost involved in treating each case at home and hospital should also be determined.

Reorientation of Clinic System and Case Finding Programme

With our main stress on domiciliary treatment in coming years, it seems almost imperative that early case finding measures should also run hand in hand. Survey by mass miniature radiography is the recognised method for this purpose. To sieve out cases from the whole community is, however, very expensive.

We should not spend time and money generally for community survey but should reserve the use of mass miniature radiography only for screening the home contacts, those who have any kind of previously known lung pathology, and/or relevant chest symptoms, general hospital admission cases, diabetics, those who are exposed to special hazards of tuberculosis, namely, workers in silica industry and groups where the incidence is known to be higher, as for example, the tribal races.

In the Third Plan period we have rightly stressed on clinic-based domiciliary treatment more than any other measure. A clinic which cannot adequately control administration of drugs may not only be wasteful for drugs but may become a dangerous source of partial and irregular treatment with all the attending evils of relapse, emergence of resistant strains and community danger following them.

I have thought of another type of planning for the clinic system. For cities and other crowded areas let there be one place governing a large area, call it a *Central Clinic*, something like our Teaching and Demonstration Centres without the arrangement for entertaining patients there except for consultations only. This clinic will be manned by a very experienced medical officer with an adequate number of medical assistants, ancillary

staff and a statistician. It will house mobile mass miniature radiography sets, a good laboratory with facilities for culture and resistance tests, processing section for the x-ray films, store for drugs, etc., and a good office for records.

Such a Centre should have attached to it a number of *Sub-clinics* in suitable sites, specially in crowded areas, where a room, a trained local doctor and home visitors will be made available for a predetermined area for attending to emergencies and complications, drug control and door-to-door propaganda for early case finding in selected groups. Patients, contacts and others for chest examination will visit the sub-clinics only on scheduled days in a week as also the mobile x-ray set along with a doctor, a nurse and an x-ray technician, drugs, sputum collecting bottles, etc. In short, these sub-clinics will represent clinical and radiological field services only. Final diagnosis, decision on treatment, drug distribution, registration and records, etc., will be under the control of the Centre. By this way the building and equipping cost of many clinics may be cut down. It will also enable us to overcome many of the defects of ill-equipped clinics by proper standardisation of work and, in addition, will bring diagnostic and treatment aid near the homes of the patients. If proved workable it may have the added advantage of bringing within our range the possibility of tackling vast semi-rural and even accessible rural areas.

Hospital Treatment

It is obvious to all that the available bed capacity is extremely poor in relation to the number of cases. As a general rule one might suggest that all open cases, specially in bad environmental and social conditions, representing great sources of infection, should be hospitalised for just as long as they are not converted to closed cases. With the help of drugs, the majority of the cases can be so converted within 3 to 6 months. This general principle, though commendable, cannot yet be adopted.

The demand for beds for *major surgical interventions and major complications of an emergency nature* is very real and important. Accepting that only ten per cent of all cases need such help, the bed provision will still be insufficient.

I would like to mention another group whose segregation away from home is most essential. These are *incurable cases*. I feel like giving the highest priority to these incurables for the greatest good of the community.

For the present, it may be a fair distribution if about two-thirds of the available beds are allotted for incurables and other types of cases and about one-third for major surgical intervention—specially for the group of 'good surgical risk' cases. As a general principle, no case where effective home segregation is possible and who is suitable for domiciliary treatment should be admitted.

Hospitals are excellent fields for co-operative studies on drugs, typical and atypical bacilli and in many other respects. They are the only places for research in regard to surgery. Among many possible and valuable lines, may I suggest only two which seem to be important for evaluation and guidance of our services in this direction. They are

(a) pilot studies on the fate of cases undergoing resectional surgery compared with comparable controls, and

(b) bacteriological and histopathological studies of resected tissues.

Aftercare Colony and Rehabilitation Centre

With advances in treatment and increasing knowledge on working capacity of tuberculous patients under chemotherapy, the need for an orthodox Aftercare Colony seems to be receding and the necessity for Rehabilitation Centres increasing. There could, however, be a good combination of both. The aim of treatment, however successful it may be from the medical point of view, will fail if the patient cannot be socially, mentally and economically re-established.

Along with the development of clinics and hospitals earnest attempt for establishing *work centres* should also be made.

Special Problems

To my mind, problems of tuberculosis in rural and industrial areas are closely interlinked. I should like to suggest the following measures to be adopted in all industrial areas with large labour population.

(a) Each such area should have a well equipped clinic with mass miniature radiography sets and a small barrack reserved for housing tuberculous patients.

Every new recruit and new entrants for the first 2 to 3 years should be tuberculin tested. Negative reactors to be BCG vaccinated. All positive reactors to be screened by miniature radiography. All detected cases of tuberculosis to be treated domiciliarily free of all cost.

(b) A few tuberculosis hospitals in the neighbourhood of very large and crowded industrial areas should be established for those who need institutional treatment among the domiciliarily treated groups.

A network of clinics in industrial areas with full facilities for domiciliary treatment should be an immediate need.

Teaching and Training

In recent years there had been much talk on clinical and public health types of teaching and training as if they are two separate methods. I do not see how this can be. In any infectious disease the bias must be on the public health aspect. It depends largely on the teacher how he teaches. It should, however, be remembered that in a subject like tuberculosis public health measures cannot stand on their legs without clinical knowledge, specially when drug treatment has become such an important weapon for prevention of tuberculosis. It will be wise to integrate the teaching and training in such a way that the student can see the picture in all perspectives both for the individual and for the community.

Teaching of the undergraduates—I am of the opinion that medical colleges should have a "Chest Department" under a recognised specialist in chest diseases. This department should undertake diagnosis and treatment of all chest diseases. As domiciliary treatment has assumed such importance for us, the students must learn this service for pulmonary tuberculosis by home visits. Nonpulmonary tuberculosis should be excluded from the domain of this department. I do not think there should be segregation of respiratory tuberculosis from other chest diseases. One must remember that all chest diseases may simulate very closely some stage of pulmonary tuberculosis and *vice versa*. Students must learn to differentiate them at one and the same place.

Postgraduate teaching—Currently, there are two grades: diploma in tuberculous diseases and doctorates. The first type of courses and examinations should be designed for producing personnel for manning Tuberculosis Institutions and the second for developing them as teachers.

National Training Centre—You may be aware that only recently such a Centre has been established in Bangalore. As far as I know the idea is to train the medical and para-medical personnel mainly in field service and community approach. I welcome the idea and wish the institution success and expect, in future years, important contributions from it.

Training for general practitioners—I regard this matter as extremely important. It must be accepted that vast majority of cases are and will be in the hands of private practitioners. They are the keymen in the proper use and abuse of many of the control measures. I do not think our endeavour to disseminate recent information on drug regimen and on many other aspects had been adequate enough. Besides many more short courses on tuberculosis, I propose that the Association undertakes to print one-page brochures on information on tuberculosis and send them to all registered practitioners now and then. In addition, under the auspices of the Branches of the Indian Medical Association, as many meetings as possible should be organised.

Research

I have already placed before you a few lines on research in association with the service programmes. Such studies will expand and may even get altered in the course of the development of such programmes. These studies are, no doubt, most useful, to guide and to modify the working methods.

All along, for sheer necessity, I have depicted a gloomy picture in presenting our load. Looking forward, as we should always do, I have no feeling of despondency. Nobody can foretell what the future holds for us. But I am almost sure that wisdom will guide our knowledge constantly and we shall achieve much even with our slender resources. Soon the pattern of our epidemiology will change making some of the expensive measures unnecessary. If the load bends our back to-day, tomorrow it will not, and our progress will be faster. May be, and it is most likely, that newer discoveries will place in our hands more potent weapons and make this magnificent fight much easier. I am sure that we are on the winning side of the battle but we must not relax. The horizon of medicine is not bounded by national barriers, yet it is my earnest hope and desire that India does not merely become the recipient of the benefits of such great discoveries and newer methods of control but be one of the chief contributors. By that only she will earn undying gratitude of others who are groaning under similar load. Let us have faith in the future and work for it, remembering that if winter comes, the spring cannot be far behind.

NOTES AND NEWS

World Health Day

On 7th April 1948, the Constitution of the World Health Organisation officially came into force. Each anniversary is now observed as World Health Day and is used by national and local health authorities to interest people in health needs and to stimulate their co-operation in health action. A definite theme for the observance is selected every year in order to focus public attention on particular aspects of health.

The theme chosen for the twelfth observance of World Health Day is "Malaria Eradication—a World Challenge".

The Government of India is observing the day on 7 April 1960 and the Indian Medical Association and its branches also would support the observance through functions held in co-operation with the local governmental authorities.

Gift to Calcutta School of Tropical Medicine

The School of Tropical Medicine, Calcutta, received the components of a spectrophotometer, a good-will gift from the Blood Research Foundation, Washington, D. C., at a simple ceremony in the office of Dr. R. N. Chaudhuri, the School's Director, held on February 11, 1960.

The spectrophotometer is a highly sensitive instrument used for haematological, biological and chemical analysis and is very useful in testing enzyme defects.

Lt. Col. R. F. Bell, Assistant Army Attache, U. S. Embassy, New Delhi, representing the U. S. Army Surgeon-General, in making the presentation, said that this was a good-will gift from the Blood Research Foundation to the School of Tropical Medicine, which is well-known for its "outstanding contribution in the field of haematology."

Dr. R. N. Chaudhuri and Dr. Jyoti B. Chatterjea, Professor of Haematology, received the spectrophotometer components, packed in four-packing cases, on behalf of the School. They expressed their appreciation for the gift and said that the instrument would be very useful in the School's research work.

Congress of International Association of Gerontology

The 5th Congress of the International Association of Gerontology will be held from 7 to 12 August, 1960 in San Francisco. The International Association of Gerontology have extended an invitation to appropriate agencies of the Government of India, professional groups and interested individuals in India to participate in this Congress. Medical men wishing to participate at the Congress, may contact Mr. Louis Kuplan, the President of the International Association of Gerontology, Post Box No. 2103 Sacramento 10, California.

The Henry Simpson Newland Prize in Surgery

The Henry Simpson Newland Prize in Surgery, established to commemorate the services of Sir Henry Newland to the medical profession, is open for competition. The conditions are :

1. The Prize shall be awarded every three years to the writer of the essay adjudged to be the best on a surgical subject.

2. The Prize will consist of a money award of One Hundred Pounds (£100), together with a medal.

3. The next award will be made in 1962, the subject of the essay being : *"The modern management of inflammatory and neoplastic diseases of the left colon and rectum."*

4. The competition is open to any graduate of any medical school within the British Commonwealth.

5. The dissertation should be based on personal observation and experience.

6. The essay must be typewritten or printed in English.

7. Essays must be delivered to the General Secretary, Federal Council of the British Medical Association in Australia, 135 Macquarie Street, Sydney, not later than 15th January, 1962. Further information may also be had from him.

Belated Soviet Recognition of Dr. Haffkine

Dr. Valdimir Haffkine, the Russian-born bacteriologist who introduced scientific methods of fighting cholera and plague to India, received posthumous honour at Moscow on March 16, 1960, the centenary of his birth in a poor Jewish family on the Black Sea coast.

Dr. Haffkine owes his belated recognition as "an outstanding Russian Scientist" to an improvement in Indo-Soviet relations. Completely ignored in Russia since he left Odessa over 60 years ago to do research at the Pasteur Institute and snubbed by Czarist officials when he offered to help fight a cholera epidemic in Russia, Dr. Haffkine was given a place among outstanding Russian scientists of the past at a meeting organised by the Society of Soviet-Indian Cultural Relations. The meeting was attended by a representative of the Indian Embassy and members of Dr. Haffkine's family.

Medical Aid to Rural People

The Estimates Committee of the Lok Sabha has criticised the Government for dealing with the question of extending medical aid to the rural people "in a halting manner."

Reiterating a three-year-old recommendation, the Committee has suggested that "early action" should be taken by the Ministry of Community Development and Co-operation, in consultation with the Ministry of Health and the Programme Evaluation Organisation "to assess and follow the cheaper and quicker method of extending medical aid to the people."

The Committee's recommendation is contained in its 72nd report presented to the Lok Sabha on March 21, by the Chairman of the Committee, Mr. H C. Dasappa. The report deals with the action taken by the Government on the recommendations contained in the Committee's 42nd report relating to the Ministry of Community Development.

West Bengal Medical Council

The Council at their meeting held on the 10th February, 1960, found Dr. Kalikrishna Sarkar, L.M.F. (Registration No. 9065) of Badanganj, district Hooghly, and Dr. Susilkumar Joardar, L.M.F. (Registration No. 9444) of 28-B, Brajanath Datta Lane, Calcutta 12, guilty of infamous conduct in professional respect for issuing medical certificates the statements wherein were not true, and removed the names of these two doctors, under section 25 (a) of the Bengal Medical Act, 1914, from the Register of registered practitioners maintained by this Council.

The names of Dr. Pannalal Chatterjee, M.B., (Registration No. 9529) of 40/1-A, Hem Chandra Street, Calcutta 23, and of Dr. Hiralal Das (Registration No. 18617) of Nona Chandanpukur, Barrackpore, 24-Parganas, which were previously removed from the Register, under section 25 (a) of the Bengal Medical Act, 1914, have since been re-entered, under section 25 (b) of the said Act, in the Register of registered practitioners.

Tuberculosis Workers' Conference

The 16th Tuberculosis Workers' Conference was held at Poona from the 19th to the 22nd January, 1960, under the auspices of the Tuberculosis Association of India. It was attended by more than 300 delegates, several officials and other persons interested in tuberculosis.

Addressing the assembly, the Chief Minister of Bombay drew attention for more effort for early diagnosis and free supply of antibacterial drugs, specially for highly infectious cases in the rural areas. Dr. Jivraj Mehta reminded the Conference that the disease was curable but there was need for more research. The Tuberculosis Adviser to the Government of India presented an account of the Five-Year Plans, National Sample Survey and the Madras Chemotherapy and Madanapalle Field Research Projects of the Indian Council of Medical Research.

Rajkumari Amrit Kaur, president of the Tuberculosis Association of India, inaugurated the Conference and specially pointed to the great value of the help from the non-official organisations in the control programme of Tuberculosis.

Dr. P. K. Sen, Professor of Medicine (Tuberculosis and Chest Diseases), Medical College, and Head of the Department of the Diseases of the Chest, University College of Medicine, Calcutta, presided over the Conference. The Presidential Address covered an extensive field, e.g., estimating the load of tuberculosis in different areas and achievements so far, evaluating control measures and suggesting changes in the service programmes and research studies to control and guide such programmes. Dr. Sen also suggested special measures for control and study of some important non-pulmonary tuberculous and non-tuberculous conditions.

Scientific sessions were held daily in the mornings and the afternoons. Almost the entire field of tuberculosis and some non-tuberculous pulmonary conditions were covered. Papers presented and discussed included B.C.G. vaccination, chemoprophylaxis, certain aspects of bacteriological and biochemical studies, assessment of different drug regimen and the value of some drugs other than the common drugs, corticosteroids, tuberculosis in childhood and in old age, pulmonary functions, etc. In addition, almost the whole of one session was devoted to the presentation of papers and discussions on various social and rehabilitation problems of tuberculosis.

Besides these papers, two important Panel discussions were held on "Surgical Treatment of Non-Tuberculous Diseases of the Lung" and "Relapse in Pulmonary Tuberculosis" moderated by Dr. R. H. Betts of Vellore and Dr. P. K. Sen of Calcutta respectively. Original data were presented by the members of the Panels and also by some of the delegates and interesting and extensive discussions were held in the light of the findings in Indian conditions.

Dr. Raman on Role of 4 Visual Pigments in Retina

Dr. C. V. Raman, noted Indian physicist, said on 26-12-59 at Annamalainagar that the power of the eye to distinguish between the different colours was the result of the presence of four "visual pigments" in the retina.

The Nobel Laureate, who was presiding over the annual session of the Indian Academy of Sciences identified these pigments as (1) Lutein, also known as Xanthophyll, (2) Haemoglobin, (3) Oxy-haemoglobin and (4) Methaemoglobin.

The presence of lutein in the retina has long been known, Dr. Raman said. The other three substances were pigments present in human blood and since the retina was richly nourished by blood vessels, they were justified in assuming that they were present in the retina.

Dr. Raman explained in his address the manner of their functioning by a comparison of their physical properties with the known data of observation regarding the perception of colour.

About the role of xanthophyll in colour vision Dr. Raman said : The absorption spectrum of lutein or xanthophyll is well known. The substance is transparent at wave-lengths greater than 5300 A.O. (angstroms). The absorption beginning at that wave-length rises at first slowly and then very steeply and reaches a maximum at about 4300 A.O. It then drops a little and rises again to a second pronounced maximum at 4450 A.O. At still shorter wave-lengths it drops down quickly and becomes small but does not vanish even at the violent end of the visible spectrum.

A survey of the facts known regarding the perception of colour reveals various features which can be specifically connected with the spectroscopic behaviour of lutein. The absorption by lutein covers the whole of the blue and violet regions of the spectrum. Since lutein is transparent to wave-lengths greater than 5200 A.O. it can play no part in the perception of colours at such wave-lengths. It is therefore, not surprising to find that in the chromaticity diagram, the pure spectral colours appear arranged on a straight line at all wave lengths greater than 5300 A.O., while on the other hand the rest of the perimeter of the diagram exhibit a marked curvature. It is also highly significant that when

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the sensitivity for colour difference with change of wavelength is represented as a graph, it shows a pronounced maximum at 4900 A.O., precisely the wave-length at which the absorption by lutein exhibits the steepest rate of rise.

A second maximum of the sensitivity has also been observed at 4400 A.O., which is also the wave-length at which the absorption-curve of lutein drops down very steeply as the wave-length is diminished. It is also significant that the colours in the blue which are found to be complementary to red, orange and yellow in the spectrum have precisely those wave-lengths at which lutein exhibits its highest absorptive power. Finally the high chromaticity coupled with feeble luminosity characteristic of the violet end of the spectrum, is readily understood in terms of the rapid fall in the strength of light absorption by lutein beyond 400 A.O.

Progress of National Filaria Control Problem

About 43·75 lakhs have been covered by mass therapy under the National Filaria Control Programme. Mass therapy has been in progress under one or more units in all the States participating in the programme.

The present coverage in the States varies from 15·9 to 82·1 per cent, the full course having been given from 8·6 per cent to 60·4 per cent of the population in the various units. Reactions following therapy have varied in incidence and severity in the population treated. Public health education through lectures, film strips and brochures has been launched in some areas where wrong notions and false propaganda regarding mass therapy made it necessary.

A population of over 22 million has been covered by sample surveys carried out so far under the programme. Teams from the Malaria Institute of India were deputed to carry out surveys in Andaman and Nicobar Islands, Assam, Pondicherry and the Laccadive Islands. A number of new filarial foci has been revealed by these surveys. It has also been found that bancroftian filariasis is not confined, as hitherto believed, to urban areas only but is endemic in many rural parts also. These findings indicate that the problem of filarial endemicity in India is far in excess of the original estimate that 25 million people are exposed to the risk. According to the revised estimates the population at risk may exceed 40 million.

The National Filaria Control Programme came into operation in 1955 with the signing of the Indo-US Agreement in March that year.

Under the programme, the Union Government makes available drugs, larvicides, vehicles and spraying equipment. The State Governments meet the operational costs.

To meet the requirements of trained personnel to man the units in the participating States, which was one of the urgent needs for launching a countrywide control programme, a branch of the Malaria Institute of India was opened at Ernakulam in Kerala in August 1955. Courses for medical officers as well as inspectors are held periodically at the centre. So far 70 medical officers and 136 inspectors have been trained.

Hospitals in Coalfield Areas

The Coal Mines Welfare Commissioner Dhanbad in his progress report of achievements during the current year said that a proposal to expand the Central Hospital at Asansol from 165 beds to 280 has taken shape and the construction is in progress. Sanction for setting up deep X-ray Therapy Section at the hospital for radium treatment has also been obtained from the Government.

The report said that provision for affording treatment to colliery workers suffering from leprosy has been made with a total number of 46 beds at the Tetulmari (Dhanbad) and Asansol Hospitals. Also 35 feeder adult education centres will be opened during the current year. A holiday home has been set up at Rajgir and a number of colliery workers were sent there during the current year.

CORRESPONDENCE

The Editor is not responsible for the views expressed by correspondents

Short Service Commission in the Army

SIR,—The lure of Army Commission is great amongst the medical graduates. The Defence Services of India, taking advantage of this, grant liberally short service Commission to our young graduates. These short service Commissioned Officers do not enjoy a good many of the privileges such as old age pension, security, etc., which are only for the more fortunate permanent Commissioned Officers.

These young members of our profession after completion of their terms in the majority of cases are released with certain gratuity. Many of these young people do not accumulate sufficient funds for a fresh establishment in life, neither are they given any preference in securing jobs in civilian life. The standard of living in the Army is definitely higher than average civilian life. As such, these young men at the age of 30 to 35 experience great difficulty in adapting themselves to their new sphere of life mainly due to financial implications. Medical Officers in the Army are essential for the morale of our troops. The Defence Services of India thereby save quite a good amount of money by not providing every one in the permanent cadre.

To save the young and inexperienced medical graduates from such a fate, the Defence Service as well as the Medical Council have to review the situation and find out a solution acceptable to both the parties. The needs of the Army should indeed be met but that should not be at the cost of inexperienced medical graduates of young age. Permanent Commission alone can put their life in a proper channel. If however direct permanent Commission cannot be granted to all of them, let the new recruits be on a probation period of 1 year and at the end of that period either they should be absorbed or released so that they do not feel frustrated at the end of 6 or 7 years of service in the Army.

Conscription of doctors during a national emergency is perfectly justifiable but their enlistment through short service Commission in peace time is unjustifiable and undesirable. I am, etc.

Congress Nagar
Nagpur. (DR.) G. K. KULKARNI

REVIEWS

Transplantation of Tissues, Vol. II—Edited by Lyndon A. Peer, M.D. 1959, the Williams & Wilkins Co., Maryland, U.S.A.; Agents Baillière Tindall & Cox, London. 10" x 6¼"; pp. xiii+600; price $20.00.

Transplantation of tissues has acquired tremendous importance in surgery in recent years. It has become imperative for a surgeon to have a working knowledge about the various aspects of tissue transplantation. The pioneer work of Lyndon A. Peer in the realm of tissue transplantation is well known. In this volume edited by him and written by thirteen well known workers the different aspects of the subject have been dealt with in detail. The chapter on transplantation of skin will clear many misconceptions about skin homografts. Each contributor describes how tissue, organ and gland transplants may be grafted with success, limitations or failure of the procedure. Particular stress has been laid on the clinical application of the procedure, which is an asset to those who are interested in reconstructive surgery.

ANJALI MUKHERJEE

A Short Practice of Surgery—By Hamilton Bailey and McNeill Love. 1959, 11th Edition, H. K. Lewis & Co. Ltd., London, W.C. 1. 9¾" x 6¾"; pp. xii+1389; 1007 illustrations (285 coloured); price £4 4s. net.

That the eleventh edition of this fairly large and comprehensive book was required in three years proves its popularity and usefulness.

The book is rich in clinical and practical materials and is packed with traditionally wholesome instructive diagrams and is good for the use of students, housestaff as well as teachers.

A. K. ROY

The Johnson Recording Oscillometer : Its Use in the Study of Arterial Circulation—By Carl A. Johnson. 1959, Pergamon Press, London, New York, Paris, Los Angeles; 8⅛" x 5⅛"; pp. 112; price 30sh.

This monograph deals with the development of the instrument in different stages and its possible application in the different fields of studies of vascular disorders. The author is very particular to study limb arterial volume pulse in hyper-, hypo- and normo-tensive subjects. His significant findings of the differences of arterial blood volume in the different limbs of the same individual warns against the conventional clinical treatment of hypertensive patients where hypotension in the lower limbs is observed by this method. The author considers that such treatment aggravates occlusive arterial disease of the lower limbs. This investigation opens further scope of research work on hypertension and hypotension.

By the use of the instrument devised by him the author has been able to exhibit that in Raynaud's syndrome of the fingers the arterial volume of the arm up to the wrist is not affected, though that of the fingers is considerably reduced during blanching. So, he has rightly pointed out that in such cases sympathectomy should be "highly selective" for fingers only.

Besides, he has been successful in recording the arterial volume pulse of the brain by making a trephine hole through the skull. His recordings of the arterial volume pulse from the intraorbital tissues, the temporal artery and the forehead give a good estimation of the changes in rate, rhythm or stroke output of the heart. Recordings of intraorbital volume pulse of patients with glaucoma, throw light on these diseases.

The principles of the technique adopted in this recording oscillometer are more precise than those of the existing ones and the recordings obtained in vascular studies are valid.

S. R. MUKHERJEE

Clinical Scalar Electrocardiography—By B. S. Lipman and E. Massie. Fourth Edition, Year Book Publishers Inc., 200 East Street, Illinois, Chicago; 8½" x 5¾"; pp. 474 with index; price $8.00.

In this new edition of the book significant changes have been made. It has been divided into two parts. The first deals with the physiological principles of cardiology and interpretations. The second has illustrative electrocardiograms. Both are written in simple, clear language.

The sections on physiological principles of electrocardiography, interpretations of orthogonal leads and vectorelectrocardiography have been nicely and timely dealt with.

General comments on interpretations is a good and well written chapter. The detailed note of left and right atrial enlargement is very helpful for those who want to work in these lines. The description of P wave and U wave changes is elaborate and worthy of special note.

In the interpretations on infarction pattern, the significant comment that "A completely transmural infarction involving the outer third of ventricular wall will produce a QS deflection but a QS deflection does not necessarily mean that entire thickness (inner two thirds) is dead", is a timely and bold statement proved by facts.

In the illustrative sections of electrocardiograms, the relation of the pattern of E.C.G. to autopsy findings, surgery and manometry has been recorded. The definite E.C.G. patterns proved by these techniques are worth recording.

The pre-excitation syndrome (W.P.W. syndrome) has been thoroughly described with the recent view that "It is also possible for the delta wave to hide or mask the Q wave of infarction, specially in Group B".

This book will be a very helpful aid to students and physicians.

D. P. BASU

Breast Cancer—Edited by Albert Segaloff. 1958, The C. V. Mosby Company, U.S.A.; 6¼" × 9¼"; pp. 237; price $5.00.

The symposium which this book represents was organised as the Second Biennial Louisiana Cancer Conference under the aegis of the American Cancer Society. An attempt was made to cover all important facets of the problem and to have formal presentations and free discussion as a forum for new ideas.

It was felt that to have a full discussion on the problem of breast cancer, not only the experience of the pathologist, surgeon and physician was necessary, but also that of the endocrinologist, radiologist, epidemiologist, biochemist, zoologist, virologist and psychiatrist was essential. The representatives of each of these disciplines took part in the discussion.

The subjects for discussion were mainly divided under three categories followed in each division by Panel Discussion. Under Basic Biology Division, epidemiologic studies of breast cancer were discussed. Current knowledge of the disease can be summarised as follows:

1. Breast cancer is most frequent among single women who have never married and occurs least frequently among married women who have borne and nursed children.

2. There is an inherited predisposition to breast cancer in certain families. The age of onset of the disease in these families tends to be earlier in succeeding generations.

3. Hormonal influences have been demonstrated in breast cancer, but their type and extent are not clear.

4. A specific role of trauma, antecedent benign breast disease, and other disease and constitutional states has not been established.

5. There is no adequate evidence for a milk factor in human beings.

On the basis of present evidence, control measures for breast cancer should include encouragement of nursing and emphasis of periodic examinations and prompt diagnosis for those individuals in the high risk groups.

In the chapter on "Definitative Treatment", it has been expressed that more recently developed criteria of inoperability must be followed. Extended operations have not proved successful in patients with locally advanced cancers.

The management of the cancer of the breast has also been discussed from the radiotherapist's point of view on the following lines:

In general, Stages I to III should be treated by simple mastectomy and radical postoperative radiotherapy. Selected cases may better be treated by radical mastectomy or by radiotherapy alone. Most Stage IV patients should be treated by radiotherapy or hormone therapy.

The results from castration in advanced breast cancer are approximately the same now as those reported sixty years ago. The role of thyroid therapy in these castrated patients probably needs further investigation. X-ray and surgical castration resulted in the same clinical results and similar hormone changes, if the x-ray therapy was given over a period of at least seven days. The only difference in the two groups is that the ovary is still present after x-ray castration. The oestrogen levels in the urine, measured chemically, remained unchanged after castration. Prophylactic castration may be of help but further data should be accumulated before it should be done routinely.

SUBODH MITRA

Klinik und Therapie symptomatischer Anfallsleiden—Von Dr. K. Nittner und Dr. H.-W. Steinmann, Köln. **EEG und Hirntrauma**—Von Dr. H.-W. Steinmann, Köln. Mit einem Vorwort von Prof. D. W. Tönnis, Köln. 1959. VIII, 175 Seiten, 68 Abbildungen, Gr.-8°, (Georg Thieme Verlag, Stuttgart), kartoniert DM 36.80. (Arbeit und Gesundheit, Heft 69).

Clinic and Therapy of Symptomatic Convulsive Ailments by Dr. K. Nittner and Dr. H. W. Steinmann, Cologne and *EEG and Cerebral Trauma* by Dr. H. W. Steinmann, Cologne, with a foreword by Prof. Dr. W. Tönnis, Cologne. 68 illustr. (in German); pp. 175; DM 36.80. (Work and Health, No. 69).

These two studies, both published from the neurosurgical University clinic, Cologne and the department of tumour research and experimental pathology of the Max-Planck Institute for brain research (Prof. Tönnis) are very useful guides to the best possible methods of diagnosing and treating convulsive diseases. Nowadays every attempt has to be made to find at the earliest possible moment all those cases who have got a good chance to benefit from operation. But also those who have no such chance should get the best available treatment, preferably under periodic EEG control. The authors deal first with the clinic of symptomatic convulsions, then with the diagnosis, clinical, radiological and by EEG and, finally with the treatment—conservative and operative; under both these headings their own experiences are reported. A few pages on prevention, educational and school problems, and rehabilitation, conclude the first section, except for a surprising wealth of references, which give an excellent survey of the literature of many countries and fill full 10 pages in small print. Most instructive are the case histories, beautifully illustrated with angio- or pneumoencephalograms and photographs, taken during the operation; all of one and the same case.

The second main section gives a systematic analysis of the significance of the EEG in estimating the sequelae of traumas of skull and brain, with special reference to the elimination of doubtful or controversial points in expert opinions. To this end the EEG is described under normal conditions; during sleep; the pathologic EEG in general and after trauma in particular; the latter is discussed in considerable detail in closed skull-brain trauma and in open brain injuries; the last sections deal with the EEG in epidural and subdural haemorrhage and in traumatic epilepsy. A short summary and 4 pages of references conclude this valuable study which is illustrated with 35 EEG's, the legends of which give not only the diagnosis but also the case history and the characteristic features of the particular gram. This paper-bound booklet is a mine of valuable information, backed by the authority of the Federal Ministry of

Labour and Social Order, that commissioned these expert neurologists to carry out the present studies.

ROBERT HEILIG

Grundriss der Bakteriologie und Serologie für medizinisch-technische Assistentinnen—Hans Heinrich, Dr. med., Direktor des Bezirks-Hygiene-Instituts Schwerin. 3., überarbeitete Auflage. Mit 57 zum grossen Teil farb. Abb. im Text. XI, 134 S. gr. 8° 1959. Lederin 18.70 DM.

Elements of Bacteriology and Serology for Medical Technicians—By Dr. H. Heinrich. 3rd revised ed., 57, mostly coloured illustr. (in German). Publ. Veb Gustav Fischer, Jena; pp. 134; 1959. DM 18.70.

The usefulness of this concise manual has been proved by the necessity of bringing out a third edition 5 years after the first. It addresses itself in the title as well as in the preface to female technicians only and mentions their extreme scarcity in East Germany, where apparently men do not take to this profession.

The subject is well covered in a systematic way, giving in simple language all the information that a laboratory technician may require. The illustrations are well chosen; most of them are well reproduced coloured photographs or paintings.

The book is fully suited for its purpose.

ROBERT HEILIG

Beiträge zur modernen Therapie. Vorträge und Diskussionsbemerkungen der ersten drei Weimarer Therapietagungen 1955, 1956, 1957. Herausgegeben von Dr. med. et rer. nat. Peter G. Hesse, Chefarzt der Hautklinik Weimar. Mit einem Vorwort von Prof Dr. med. Kurt Schultze-Jena. Mit 136 zum Teil farb. Abb. im Text. XII, 498 S. gr. 8°, 1959. Ganzleinen 38.25 DM.

Contributions to Modern Therapy—Lectures and Discussions at the First Three Weimar Conferences on Therapy, 1955, 1956, 1957. Editor Dr. P. G. Hesse, Weimar. Preface by Prof. Dr. med. K. Schultze, Jena (in German). 136 partly coloured illustr.; Publ. Veb Gustav Fischer, Jena, 1959, pp. 498; DM 38.25.

This medium-size volume of hardly 500 pages contains reports on every important aspect of treatment on which a physician might need information. The programmes are so well arranged that without repetitions every year another selection of important subjects is presented by experienced clinicians or practitioners and a lively discussion which follows every lecture permits a still broader survey of the question with which the lecturer dealt. Even such unconventional subjects as Niehans' fresh cell therapy, technique and indication of hypnosis, or the neurotic substructure of the cancer patient are treated. The daily recurring problems of cardiac , hepatic, allergic, tuberculosis, or rheumatism treatment in all their varying shapes, in childhood or in adults; the acute abdomen and breast cancer; sexual disturbances and eczema; all are treated in sufficient detail to give a cross-section of Germany's medicine in every day's life and a large amount of useful information on many fast developing subjects. There are so many tables that even those who have only a rudimentary knowledge of the language should be able to understand the essentials. Some of the proprietary names should be explained in terms of composition. There are some useful illustrations, especially the drawings showing localisation of various forms of encephalitis. Binding and general make-up of the book are pleasing.

ROBERT HEILIG

Autolyse-Krankheiten in der Chirurgie Klinische und experimentelle Studien zur Pathogenese und Therapie einiger akuter, insbesondere posttraumatischer Krankheitsbilder—Von. Priv.-Doz. Dr. L. Koslowski, Freiburg/Br. Mit einem Geleitwort von Prof. Dr. H. Krauss, Freiburg/Br. 1959. VIII, 160 Seiten, 60 Abbildungen, 15 Tabellen, Gr.-8°, (Georg Thieme Verlag, Stuttgart), kartoniert DM 19·80.

Autolytic Diseases in Surgery. Clinical and Experimental Studies on Pathogenesis and Therapy of Some Acute, especially Post-Traumatic Syndromes—By Priv.-Doz. Dr. L. Koslowski, Freiburg/Br. Preface by Prof. Dr. H. Krauss, Freiburg/Br. 60 illustr., pp. 160; 15 tables (in German), DM 19·80.

These studies have been carried out because of the clinical experience that many patients still succumb to their biochemical lesions inspite of effective control of infections, maintenance of blood volume, water and electrolyte balance, careful anaesthesia and operative technique and best nursing care. Quite recently, therefore, effects of increased proteolysis have elicited increasing interest. The guiding idea of these investigations was to show intravital autolysis as the pathogenetic principle particularly of post-traumatic disease. After defining necrosis, autolysis and heterolysis and differentiating them from each other, autolysis is being examined in pancreas necrosis, tissue damage due to frost, electricity, heat, radiation, blood destruction and crush syndrome. The next section deals with experimental ischaemic muscle lesions as a model of an autolytic disease. Pathologic anatomical discussions are followed by investigations of blood proteins; blood cells and coagulation; disturbances of permeability, including therapeutic considerations; metabolism and immunologic effects of intravital autolysis. After summing up the experimental results, the author proceeds to an examination of the part played by intravital autolysis in shock and collapse; he reaches here remarkable conclusions of general interest. The therapeutic rules laid down are that (1) the production of autogenous toxins should be prevented; (2) their resorption from the damaged area delayed; (3) their fixation on detoxifying agents favoured; (4) their action on the effector organ blocked. Finally, some open problems resulting from the preceding findings are being formulated. How thoroughly the author has prepared his ground and studied every aspect of his subject is demonstrated by the wealth of references of which 960 have been listed, covering the literature from 1873 to 1959 in German, English and French with occasional excursion into Italian and Russian. This is a record of original work and independent way of approaching old and new

problems, which should be of considerable interest to biochemists, patho-physiologists and clinicians.

ROBERT HEILIG

Allgemeine Pathologie : Grundlagen und Probleme Ein Lehrbuch—Von. Prof. Dr. E. Letterer, Tübingen. 1959. XX, 850 Seiten, 632 Abbildungen, Lex.-8°, (Georg Thieme Verlag, Stuttgart), Ganzleinen DM 69.

General Pathology: Foundations and Problems. A Textbook—By Prof. Dr. E. Letterer, Tübingen, pp. 850, 632 illustr. (in German). DM 69.

The author defines general pathology as a secondary science as it develops as an abstraction of manyfold special observations. Although morphology is underlying all scientific medicine, it is not the end of it; as soon as the form has been understood, the question arose as to its significance for the function. This idea of general pathology was first conceived by Rudolf Virchow in his cellular pathology and fully worked out by Martin Heidenhain. Following these masters, the author chose as guiding principle of his present textbook the phenomenology of the life of the cell as seen in its metabolism, growth, irritability and movements. This simple sounding programme has been developed so as to contain an unusually fascinating treatise on functional pathology. The work has been divided in two main parts. The first one of 124 pp. defines the philosophical principles of general pathology and describes the elements of morphology. The second "book" of 675 pp.—deals with metabolism; circulation; growth; response to stimuli and its disturbances, and, finally, motility and its disturbances. Some references are given at the end of every chapter. A detailed index of 50 pages makes it easy to find every detail in the text. Special features of this new ventre are detailed summaries which provide a concise survey of every chapter; a large number of excellent illustrations, micro- and macrophotographs, which are taking up almost as much space as the text and, above all, the modern approach to the whole subject; morphological details are all here but somehow one feels everywhere that they are not the main thing. What seems to matter most to the author is the understanding of the pathological processes as being derived from physiological dynamics, variations of fundamental functions of the living, integrated body. This is a stimulating work indeed, as was to be expected from Prof. Letterer, one of the most outstanding German pathologists. The book has been produced with meticulous care.

ROBERT HEILIG

Dermatologie und Venerologie einschliesslich Berufskrankheiten, dermatologischer Kosmetik und Andrologie—In 5 Bänden (inzelne Bände erscheinen in zwei Teilen)—Herausgegeben von Prof. Dr. Dr. h. c. H.A. Gottron, Tübingen und Prof. Dr. Dr. h. c. W. Schönfeld, Heidelberg. 20% ermässigter Subscriptionspreis für das Gesamtwerk. Der Subskriptionspreis gilt bis zum Erscheinen des letzten Bandes. Jeder Band ist einzeln zum Ladenpreis käuflich. Band III, Teil 1: Hautveränderungen durch äussere Einwirkung—Allergische Krankheiten und toxische Schädigungen der Haut—Formenkreis des Ekzems. Bearbeitet von zahlreichen namhaften Fachgelehrten. 1959. XVI, 695 Seiten, 232 zum Teil farbige Abbildungen, Lex.-8°, (Georg Thieme Verlag, Stuttgart), Ganzleinen DM 165.—, Subscriptionspreis DM 132.—Der Bezug von Teil 1 verpflichtet zur Abnahme des gesamten Bandes III (Teil 2 erscheint im August 1959). Band III, Teil 2: Krankheiten der Hautanhangsgebilde einschliesslich Akne und Rosacea—Hautkrankheiten bei inneren Störungen (Mit Sach- und Namenregister für Band III, Teil 1 und 2). 1959. XIV, 706 Seiten, 317 zum Teil farbige Abbildungen, Lex.-8° (Georg Thieme Verlag, Stuttgart), Ganzleinen DM 178.—. Subskriptionspreis DM 142·40. (Der Bezug von Teil 1—erschienen im Juni 1959—verpflichtete zur Abnahme von Teil 2). Band III (in zwei Teilen) Ganzleinen DM 343.—. Subskriptionspreis DM 274·40

Dermatology and Venereology including Occupational Diseases Dermatologic Cosmetic and Andrology, in 5 Vols., edited by Prof. Dr. Dr. h. c. H. A. Gottron, Tübingen and Prof. emerit. Dr. Dr. h. c. W. Schönfeld, Heidelberg. Vol. III/Part 1: Skin alterations by external effects. Allergic diseases and toxic lesions of the skin. Group of eczemas by 22 experts. 232 partly coloured illustr. (in German). D.M. 165, Subscription price D.M. 132. Vol. III/Part 2: Diseases of the appendages of the skin incl. acne and rosacea. Skin diseases in endocrine disturbances. Authors' and subject register for Vol. III/part 1 and 8. 317 partly coloured illustr. (in German) D.M. 178, Subscr. price D.M. 142.40.

Part 1 of Vol. 3 contains some very interesting contributions. The first 26 pp. with 136 illustr. deal with lesions caused by heat, cold and electricity; corrosives including those used in warfare; embedded foreign bodies; artifacts; light dermatoses; peripheral circulatory disturbances, varicose veins and the anal syndrome. The next 180 pp. with 23 illustrations are devoted to allergic and toxic lesions. This chapter contains sections on urticaria, phytogenic dermatoses, medicinal exanthemata, external poisonings, skin tests in allergic diseases, and immunobiology of the skin. Eczemas (192 pp. with 69 illustr.) are treated under the headings of contact dermatitis, ordinary and endogenous eczema, chronic lichen simplex, and seborrhoeic eczema. One section on expert opinion in occupational dermatoses and one on the significance of traumatic accidents in dermatovenereology and expert opinion on their consequences conclude part 1.

The first main section of part 2, alterations of the appendages of the skin, covers about 250 pp. with 217 illustr.; it is divided into sections on functional disturbances and diseases of the sweat glands, those of the sebaceous glands (acne vulgaris), acne rosacea, diseases of hair and scalp, and diseases of the nails. The skin alterations due to internal diseases are arranged according to the affected systems: gastro-intestinal; liver-pancreas; urogenital tract; then follow physiological and pathological alterations in pregnancy; skin and mineral metabolism; lipidoses; hyalinoses; amyloidosis and a host of others due to deposits of autogenic substances. Endocrine alterations; leukaemia; Hodgkin's disease; mycosis fungoides; pruritus; and tropho-angioneurotic

disturbances are followed by 40 pp. of authors' names and 30 pp. of the subject index.

Every subject has been entrusted to a well-known expert, many of them academic teachers, others heads of hospital departments with considerable practical experience, so that opinions expressed here on aetiology, diagnosis and treatment may be taken as authoritative in the German speaking medical area; they, therefore, deserve attention by experts of other countries. Most of the articles are profusely illustrated with well reproduced characteristic photographs. Both these parts are beautifully produced in every respect.

The 2 parts of volume 2 of this encyclopaedia have been reviewed in this column on 16-4-1959.

ROBERT HEILIG

Soil, Grass and Cancer—By André Voisin. 1959, Crosby Lockwood & Son Ltd., London; 8¼" x 5¼"; pp. xviii+302; price 30s. net.

The book under review is the translation from the French by Herriot, C. T. M. and Kennedy, H. This consists of 16 chapters and 428 bibliographies. It deals with very stimulating and thought provoking ideas. The author wants to lay stress on the fact that many human and animal maladies including cancer depends on the soil and on the food—both vegetable and animal. It is the disturbance in the main constituents of soil, mainly minerals, which plays the most active part. The author has taken all the pains to substantiate his ideas by extensive references from the international literature. The workers in the field of agriculture, animal husbandry, cancer research and general medical practice as well as social service will be immensely benefited. They are sure to get many valuable points to think over, when they go through the volume.

R. DUTTA CHAUDHURI

OBITUARIES

Dr. Charu Chandra Banerjee

Dr. C. C. Banerjee was born in April 1888 at Bhabia in 24 Perganas. He passed the L.M.P. examination in 1914 with Honours in Midwifery and Medical Jurisprudence.

From 1916, he had been practising at village Jamgram with great credit till his death. He was an erudite scholar. Even in his deathbed medical books and journals lay scattered.

Dr. Banerjee passed away on December 17, 1957.

Dr. G. N. Vyas

Dr. G. N. Vyas was born in 1894. He graduated from the Lucknow Medical College in 1918 and obtained M.D. in 1922. He was admitted to the Royal College of Physicians, Edinburgh, as a member in 1928. Dr. Vyas then joined the Agra Medical College as Lecturer in Medicine and worked as Professor of Medicine till August, 1950, when he retired from service. He was also the Principal of Agra Medical College in 1946 and 1947.

Dr. Vyas was an eminent physician and teacher. He was a member of the Agra branch of I.M.A.

Dr. Vyas breathed his last in February, 1960.

Dr. H. R. Sabbarwal

Dr. Hansraj Sabbarwal of Sialkot City was born in 1897. He qualified as an L.M.F. from Calcutta in 1919. He was the secretary of the Sialkot branch I.M.A. for some time.

Dr. Sabbarwal, after partition of India, settled in Meerut and re-started private practice. He expired on March 3, 1959 at Meerut.

YOUR QUESTION

Correspondents should give their names and addresses (not necessarily for publication) and include all relevant details of the questions which should be typed. Questions of medical interest will only be accepted for this section. They should be sent in a separate envelope marked "Your Questions". Questions of general interest will be published in preference. Lack of space precludes answering all the questions received.

ED.—*J. Indian M. A.*

Q. A virgin, aged 23 years, well-developed, but not yet menstruated, was remarried. She complained of exfoliation of the skin of the whole body, including the scalp, for the last 7 years. It started as small patches in different parts of the body. Although there was periodical improvement in the condition, at no time was there complete freedom from it. At the height of an attack, the patient noticed some degree of oedema all over the body, especially in the extremities. Other systems of the body were not affected. A mild degree of glossitis was noticed. There was a moderate degree of eosinophilia. There was no history of treatment with heavy metals.

Kindly let me know the aetiological factors involved in this case, and the line of treatment you recommend.

Ans. Generalised exfoliative dermatitis is a very serious and medically important type of dermatitis encountered in practice. The condition may develop following administration of heavy metals but commonly has its genesis in seborrhoeic dermatitis and psoriasis. Such a process may be the prodrome of mycosis fungoides or some other member of the lymphoma group. There are also cases of generalised exfoliative dermatitis which have been characterised by a variety of terms but of which almost nothing is known aetiologically. In such patients the most careful and meticulous study from all standpoints is indicated as early as possible.

The only method of treatment which will keep the process (unknown group) under control is the administration of corticosteroids, often in amounts which present very real physiological hazards.

Amenorrhoea in this case is unrelated with the skin condition and is probably due to gynaecological causes which need thorough investigation.

SUPPLEMENT
Journal of the Indian Medical Association

VOL. 34, No. 8 CALCUTTA APRIL 16, 1960

XIX BIHAR STATE MEDICAL CONFERENCE HAJIPUR, 1959

The 19th Bihar State Medical Conference was held on November 8-9, 1959 at Hajipur at the premises of the Government-aided Multilateral Higher Secondary School. Health and Medical exhibition was organised with the co-operation of the Public Health Institute, Bihar and the various departments of Prince of Wales Medical College.

After the I.M.A. flag was hoisted by Dr. H. C. Mullick, the retiring president in the morning of the 8th November, the annual meeting of the State Council was held. Dr. S. K. Sinha, Chief Minister arrived at 12 noon and was escorted to the dais by the Chairman and Organising Secretary. Important personalities of the State like Shri Dip Narain Singh, Dy. Chief Minister, Shri Bir Chand Patel, State Health Minister, Smt. Rani Jyatirmoyee Devi, Dy. Health Minister, Dr. D. Ram, Vice-Chancellor, Bihar University, Shri M. P. Sinha, president, State Khadi Board, besides the elites of the medical profession, including some of the past presidents of the State I.M.A., graced the occasion. Dr. R. Sinha, the Chairman, reception committee delivered his welcome address. In his address he briefly reviewed the success so far made in coping with the different health problems of the district after independence. He discussed the problems of rural health, Malaria, Kala-Azar, Cholera, and Small-pox and narrated the progress made in controlling the diseases.

The Chief Minister Dr. S. K. Sinha in inaugurating the conference spoke for about an hour. Next Dr. H. C. Mullick the retiring president introduced the president-elect to the audience and installed him in the presidential chair. The president at the outset paid homage to the friends of IMA who passed away during the last 12 months. He said

"As the question of medical relief and Public Health is ultimately linked with medical education, I propose to discuss some aspects of this much debated subject particularly with regard to the State of Bihar. It is disappointing to mention at the outset that although the All India Conference on Medical Education attended by experts from India and abroad met in Delhi in November 1956, formulated its recommendations and forwarded them to the State Governments and the Universities, yet nothing seems to be coming up and no steps have been taken for their implementation. In fact, one wonders whether a copy of the recommendations can be easily traced now. All over the country, the deteriorating standard of medical graduates in recent years has been engaging the attention of administrators and medical educationists alike but in our State the problem has neither been investigated fully nor focussed upon with the result that we are still clinging to the old methods of stereotyped teaching without proper stress on the *preventive aspect of medicine*. In my own speciality the success that has been achieved in preventive field in the Western Countries has been so outstanding that 'Pediatrics' can be termed Preventive Medicine. In fact, many diseases in adolescence and adult life could be easily prevented if the child is protected against the common hazards in early life.

If the medical students are not taught from the angle of preventive medicine and positive health, how do you expect the young doctors to take interest in the work that awaits them in National Extension and Community Development Blocks. One of the important reasons why the doctors when recruited to the State Medical Service do not like to go to the Blocks is the fact that perhaps they are not sure in their mind of the results which a primary health centre could achieve. Of course, the living and working conditions of the doctors in the Blocks should engage the immediate attention of the authorities concerned. I will refer to it again under the appropriate heading.

Perhaps the Universities and the Directorate of Health believe that all is well in the medical colleges of the State as far as the standard of medical education is concerned. I might point out without fear of contradiction that we are falling behind and other medical teaching centres which have sprung up recently in the country are going ahead. It is time that we make an attempt to find out our own deficiencies as I feel that no attempt has been made to review the working of the medical colleges in the State pari passu with the revolutionary changes in the different branches of medical science. It may be surprising to you to learn that the following units are not yet functioning even in the premier medical institution of the State :—Neuro-Surgical Unit, Chest Surgical Unit, Physiotherapy Unit, Virus Laboratory etc.

The result is that we are not able to investigate diseases caused by viruses nor are we able to institute a regime of Physiotherapy and rehabilitation where indicated. Likewise most of the operation related to brain and heart are not taken up. The Patna Medical College has neither a well organised post-graduate Pathological Laboratory nor an up-to-date library. We have in existence some specialised branches of medical science viz., Pediatrics, Orthopaedics, Skin, Radiology and Cardiology, but their growth has been stunted because of lack of independent status and meagre facilities for expansion. It is not right these days to just set up departments without adequate facilities. Nothing can be achieved as long as the step-motherly attitude of the authorities persists with regard to the specialities. To illustrate this point further, I might mention that in my experience of twelve years, quite a few cases have been referred to Madras, Vellore and Bombay for investigation and treatment. This could be easily stopped if the specialities grow and if our own talents of the state are well utilised.

Let us now discuss why there is stagnation in our progress. The Patna University have started Post-Graduate diploma courses in Pathology, Eye, R. N. T., Pediatrics and Tuberculosis and quite a number of post-graduates are seeking admission every year to these courses. Side by side the number of post-graduates for the M.D. and M. S. examinations is also increasing every year. While this is a good sign, what facilities have the University or the Government extended to those who are

trying to specialise is various branches? Training and teaching facilities cannot be considered adequate without the creation of more teaching posts in the Patna Medical College and Darbhanga Medical College. In future, it is intended to start courses for M.D. and M. S. candidates also. How will the teachers of the medical colleges whose hospital work-load is quite heavy carry out their arduous duties of post-graduate teaching? Even if some enthusiastic teachers take upon themselves to do research and post-graduate teaching, have we got the facilities in our teaching institutions? There is not even a proper post-graduate laboratory where a problem could be investigated in details.

There is yet another aspect of medical education which must be specially emphasised to-day. In the Third and subsequent Five Year Plans, more and more health personnel will be required to man the preventive medical services in the State. I think the Third Five Year Plan is going to be an ambitious one as far as the medical planning is concerned. If we want the Third Five Year Plan to succeed, we will have to think as to how to get the requisite health personnel—the doctors, the nurses and the various categories of health workers. These will have to be trained in large numbers in our State in the future as I am not in favour of recruiting any health personnel from outside the State. How are these to be achieved in the present set-up?

In the context of what I have said above, may I suggest the following concrete steps by the implementation of which we will attain a higher standard of medical education, teaching and research and at the same time we will be able to prepare the ground for training of our health personnel.

1. The teachers of the medical college in the State should be grouped in one separate cadre—the teaching cadre which should be in the direct charge of Director of Medical Education. The Director of Health Services is so much pre-occupied with routine transfers, posting, development work of the N. E. S. Blocks, epidemics and other administrative problems that it is very difficult for him to think of the medical college, medical education and research. The Director of Medical Education should be a person with high post-graduate qualifications and preferably one who has already worked as a professor for some years in a medical College. His work will be confined to :—

(a) The management of the teaching cadre including recruitment and posting.
(b) Planning for medical education—under-graduate and post-graduate.
(c) Planning for research in consultation with the Professors of Medical Colleges.
(d) Arrangements for training of health personnel who will be needed in the Third and Subsequent Five Year Plan.

The Director of Medical Education apart from the routine duties should represent the State Government on the various University bodies and he should be answerable to the Health Minister of the State.

Alternatively, if it is not possible to create such a post, the Additional Director of Health Services should be given this portfolio and the Director of Health Services should have a joint Director to assist him.

2. Establishment of a post-graduate institute in Patna where medical students doing their diploma and doctorate may be trained properly and where research problems could be worked out. This institute should therefore have some beds attached to it and also an adequate post-graduate pathological laboratory. The contemplated virus laboratory may be usefully located in the Post-graduate institute of Medical Sciences.

3. Such post-graduates who have done their M.D., M.R.C.P., or M.S., F.R.C.S. and who belong to the State Medical Service should be entitled to draw Rs. 100/- per month as special allowance. Similarly those who have done their post-graduate diplomas should be entitled to draw Rs. 50/- per month as special allowance. This will give great impetus to young graduates contemplating to do M.D., M.S. etc.

4. Adequate arrangements should be made in this Post-graduate institute of Medical Sciences for training of all categories of health personnel. As already discussed, their training programme should be chalked out and implemented well in advance of the launching of the Third Five Year Plan.

5. Appointments in the medical colleges should not be kept pending and that is, when a teacher retires, his successor should be appointed in advance so that teaching does not suffer on any account.

6. Close collaboration with the Indian Medical Association in starting another medical college in Patna, Bhagalpur or Monghyr. It has been calculated that with the best of examination results in the existing medical colleges including Ranchi, it will not be possible to produce doctors needed for various types of health services which have been planned for medical relief in the villages. The Indian Medical Association, Bihar State Branch have decided to go ahead with 'planning' for the fourth medical college in the State and the Association therefore requests the Government to extend substantial help in the execution of this plan.

Primary Health Centre in Community Development Blocks

There are over 300 Community Development Blocks in the State and in each the Primary Health Centre is located with a view to build 'National Health' on a sound basis. The idea is commendable and the State Government should be congratulated for the speedy execution of this plan in the community development programme. A basic thing like this should not be allowed however to function ineffectively for want of proper living and working conditions. From all reports it appears that the young doctors who are posted in the Community Development Blocks are not happy because they are not able to live comfortably for want of proper accommodation nor are they able to work peacefully because of the bossing attitude of the Block Development Officers who are the drawing and disbursing Officers. The doctors in the Blocks have also to approach the Block Development Officer for casual leave and for getting their Travelling Allowance bills countersigned. This State of affairs is not encouraging and the authorities should remove this confusion as soon as possible.

It is suggested :—

(1) The senior of the two medical graduates working in the blocks should be the drawing and disbursing officer of the medical side and the Civil Surgeon should be the controlling officer.

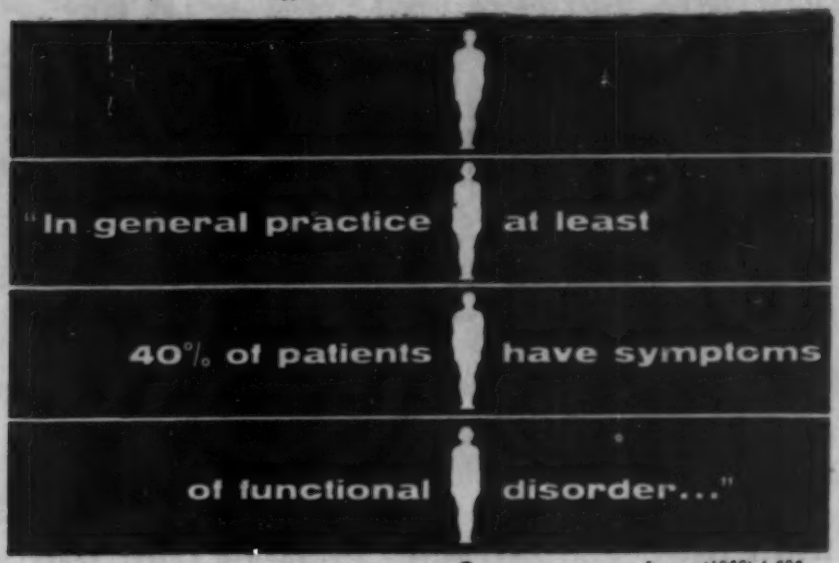
(2) Casual leave should be granted by the Civil Surgeon who should also countersign the Travelling Allowance bills of the medical officer and his staff.

(3) The medical officers in the blocks should coordinate their activities with those of the Block Development officers and should keep them informed of the progress done.

A few years back these points were put before the Chief Minister when a deputation waited on him but nothing tangible seems to have been done. Let me take this opportunity of once again drawing the attention of the Government and I hope this confusion will end soon in view of the assurances given to us by the authorities concerned. While I agree that the young doctors should be posted for two years in the blocks without exception, their living and working conditions must be gone into by the Government and their transfers and postings should be effected according to a well chalked out plan.

Training of Health Personnel

It is not often realised that the training of Health Personnel needed for the Third Five Year Plan is a problem which poses for immediate solution. If we look back to the Bhore Committee's report we find that the



Lancet (1958) 1,525

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inadequacy of other categories of Health Personnel is even more acute than that of doctors. According to the report only one nurse was available for 43,000 population; one midwife for 60,000; one dentist for 3,00,000 and one health visitor for 4,00,000. At the end of the First Five Year Plan, the increase in the number of nurse was 5,000, midwives, 8,000; health assistants and sanitary inspectors 500. In Bihar in 1955-56 the number of nurse-midwives increased to 744, the sanitary inspectors to 420 and the vaccinators to 1,685.

Both at Darbhanga and Ranchi we have a school to train 45 auxiliary nurse-midwives per year and two new schools one at Gaya and other at Bettiah, each to train 30 auxiliary nurse midwives per year have been recently started. Besides, we have two Lady Health Visitor's Schools at Patna and Ranchi where the course of training is of two and half years' duration.

As the target of the Bihar Government is to cover the entire State with a network of Community Development Blocks numbering 544 by 1962 it is at once evident that we have to keep in mind the training of not only the medical students but also other categories of Health Personnel. Trained Lady Health Visitors and *Dais*, Sanitary Inspectors and Vaccinators, auxiliary nurse midwives—all will be needed to man the rural health centres of the National Extension Services and Community Development Blocks. Without an adequate number of these categories of Health Personnel, the doctors will have to work with great handicaps and much of their time and energy will be wasted.

May I suggest that an expert committee be formed and entrusted with the task of drawing up a plan which will provide the facilities for training of different categories of Health Personnel in the various hospitals of the State. Unless we pool all our resources and unless we provide for the training of all categories of Health Personnel, I am afraid there will be immense difficulties in the way of our executing the Third Five Year Plan.

EMPLOYEES' STATE INSURANCE SCHEME

This scheme is a huge experiment in the socialisation of medicine. The Indian Medical Association have always desired that the Scheme should succeed and benefit not only the insured workers but also their families. In the State of Bihar, the Employees' State Insurance Scheme is functioning only in a few places and it is apprehended that there may not be enough doctors in service available for working the Scheme in all industrial areas. To get over this difficulty, the Government are contemplating (i) to raise the emoluments by granting special pay of Rs. 100-150 per month plus free quarters and (ii) to introduce a separate cadre so that the scheme may cover approximately 200 centres by February, 1961. The Employees' State Insurance Corporation have also agreed to this proposal of the State Government. Even with the increased emoluments I feel that the service system may not be very successful and as such the panel system as introduced in the big cities of Bombay and Calcutta may have to be seriously considered for those industrial areas of the State where independent practitioners who satisfy the prescribed conditions are available. In 1955, the Standing Committee of the Insurance Corporation visited Coimbatore where both the service and the panel system were being tried side by side. The standing Committee reported favourably on the panel system. In our State we have been negotiating with the Government for giving a trial to the panel system as a test case in selected areas. This will mean less initial cost and also ensure proper doctor-patient relationship. The independent practitioners who are practising in those areas will have greater interest in extending medical relief to the workers under this Scheme. The Indian Medical Association Bihar State Branch takes full responsibility of supplying adequate medical man-power for the panel system in some areas and also for the service system in other areas. We can review the working of both the systems after a year or two and then see for ourselves as to which works better.

BIHAR COUNCIL OF MEDICAL REGISTRATION

From the little experience that we all had in the last election for a seat in the Indian Medical Council, we feel that the Council of Medical Registration in Bihar is not functioning properly. Even names of practitioners who are dead and gone are still included in the register causing lot of confusion. It is suggested that the Council of Medical Registration should take more interest in the registration work and this body should be a little more strict in ensuring that those doctors who practise in the State of Bihar are duly registered.

According to the constitution of the Indian Medical Council Act, foreign doctors are entitled to practise in our country and we welcome all of them in our State but we would certainly like that they first register themselves with the State Council before accepting

appointments in any hospital or before starting private practice. After all, the idea of registration is to ensure uniform standard of medical relief and care to the people.

May I suggest that the Bihar Council of Medical Registration should check up the list of doctors practising in the hospitals or outside and should immediately write to those who are not yet registered. The council of Medical Registration, I am quite sure, will have the supports of the State Government in this matter.

State Health Council

In conformity with the practice in other States, the Health Department of the State of Bihar organised the first meeting of the State Health Council in Ranchi in June, 1956. The meeting was quite successful and the representatives of Bihar State Branch of the Indian Medical Association contributed their quota towards trying to solve some of the medical problems of the State. We feel that this useful forum has been put in the cold storage as no meeting of the State Health Council has been held since 1956 inspite of our reminders and deputation. The Health Department should not be shy in calling another meeting of the State Health Council as on this body there could be very close and useful collaboration between the Government and the Indian Medical Association. It must be understood that one of the functions of the Indian Medical Association is to promote collaboration with the Government in all health schemes as we realise that no Government can get all the work done by its officers *only* in a democratic set-up.

May I therefore strongly suggest that the next meeting of the State Health Council be called as soon as possible to discuss the various schemes for medical relief and public health in the Third Five Year Plan. I would like to assure the Health Department that the State Branch of the Indian Medical Association will never lag behind in collaborating and promoting the future activities of the State Health Council.

Bihar Health Week

We have been observing the Bihar Health Week since 1954 and from small beginnings we attained an appreciable measure of success in our campaign in the last two years. Although whatever we are doing has not covered even a fringe of the problem. I must make it clear that without the support of the Bihar Government in recent years, we would not have been able to augment our activities of the Health Week. We very much value and appreciate the encouragement given to us by the Bihar Government in observing Health Week every year. It is intended to increase the scope of the Bihar Health Week in future by including school health survey, mass immunisation and mass X'ray examinations on a wider scale. We also intend that this type of work should be gradually taken over by the Government and the Indian Medical Association will continue to contribute and work as in the past throughout the State.

Ancient Systems of Medicine

As medical relief cannot be the monopoly of any particular system, we will not be justified in saying that the modern and scientific system is the only one which could achieve the desired results. But it is an accepted fact that the Ayurvedic System of medicine flourished in the ancient days and that we have *now lost* touch with the art of healing as advocated by Charaka or Susruta or Dhanwantari. The State Governments and the Central Government are probably committed to go all out to help the development of 'Ayurveda'. True, that if this ancient system is put to the scientific test, something different from what we know as 'Ayurveda' will result—but there must be a band of devoted and selfless research workers to take up research in Ayurvedic medicine. It is not just enough to have a little knowledge of Sanskrit and to read some old Ayurvedic literature. The type of 'Ayurveda' which one should aim at in our country could only emerge if modern and scientific methods of analysis, biochemical estimation and biological assay are applied and then the results published so that one could compare with the results contained in other publications. After all it must be remembered that there is the scientific and modern system of medicine which is making tremendous progress. The indigenous system will have to keep pace with the modern system if the Government desires that ultimately all ailing population should be treated by the former method as far as possible on grounds of cost and sentiments attached to the words "Ancient", "Ayurveda" etc. People must have the confidence which they now have in the modern system of medicine before they subject their children or family to medical treatment.

It has been learnt in recent months that the Union Government is contemplating to divert large sums of money (now utilised by the Indian Council of Medical Research) towards Ayurvedic Research. Where is the Ayurvedic Research to be carried on and what facilities we possess in the existing Ayurvedic hospitals of the country? We feel that haphazard and hurried steps taken in response to sentiment and popular appeal may prove risky and costly in the long run. The Indian Medical Association would never like to wipe out anything which is scientific and at the same time would collaborate with the Government if the schemes and plans for the development of 'Ayurvedic Medicine' are guided by rigid scientific criteria. It will be necessary for example to establish a department of Ayurvedic Research in the existing medical colleges if real progress has to be achieved in exploring the therapeutic potentialities of Indian herbs and plants which are available in plenty in the forests and hills.

Medical Personnel in the Service

Doctors are employed in the State Medical Service, in the Railways, in the Mines, in the Medical College Hospitals and in the District Board Dispensaries all over the country. If you want to get the best out of these doctors, you have to see that they are housed decently and they are paid adequately so that they can put their 'Heart' in the job. The cadre strength of the State Medical Service is increasing every month and I am told that in the near future it will reach the figure of 2,000. More and more District Board Dispensaries and Hospitals are being provincialised but very little is being done to introduce revised scales of pay. For example the doctors in the Purnea District Board are paid so little that one wonders how is it possible for them to make their two ends meet. The State Government should take immediate steps to improve the scale of pay of the doctors throughout the State and also adequate steps should be taken to make the services more attractive. Is it not a surprising fact that in this big cadre of State Medical Service, there is only one class I post viz., that of the Director of Health Services. How does this compare with other services? How many Class I posts have been created in the Agriculture or Education Departments? We feel that inspite of deputations in the past this question has not been taken up in right earnest by the State Government. In our opinion twenty percent of the cadre strength should be earmarked for Class I posts and five percent for Selection posts. There was a time when the best of the university boys and girls used to seek admission in the medical colleges but to-day it is not so. The second or the third raters only apply for admission to the medical colleges, a tendency which may spell disaster in the future. We should investigate the causes for this abrupt change in the attitude of the students. I feel, the deteriorating private practice and the unattractive terms of the State Medical Service are largely responsible. Time and again it has been brought out that our State Budget is providing very little in Bihar as compared to what is being done is Bengal over medical relief. I am quite sure our Chief Minister who possesses a first hand knowledge of this disproportionate allotment will exercise his discretion and vast influence in moulding the

State Budget in such a way that real medical relief is extended to the ailing population and public health activities are augmented with such a 'tempo' that communicable and infectious diseases are wiped out from the State of Bihar.

I have almost finished but before I do so I would like to say what the Indian Medical Association stands for :

(i) Raising the standard of medical care and relief in the country.
(ii) Advancing scientific knowledge of medicine.
(iii) Insuring proper working and living conditions to the doctors.
(iv) Collaboration with Government and other official and non-official organisations for the cause of medical relief in all its forms.

The Bihar State Branch of Indian Medical Association has no clash with any organisation or Government and it wants to go ahead by increasing its activities but our resources are extremely limited. It banks on the valuable services of its enthusiastic members and counts on the support of the State Government in many of its future schemes.

Our targets are :

(i) To improve the lot of the doctors working particularly in the rural areas.
(ii) To enrol at least 1000 new members in the coming year.
(iii) To add another storey on the Indian Medical Association building in Patna so that our members may stay comfortably and meet oftener to discuss the various medical problems of the State.
(iv) To expand the existing library located in the Indian Medical Association building in order to keep our knowledge up-to-date and also arrange for proper refresher courses to the practitioners.
(v) To increase the scope of Refresher Courses Lectures for the doctors throughout the State by establishing Centres for this purpose in all district towns.
(vi) To enlarge the scope of Bihar Health Week so that we make the people health-conscious and the school-going children bright and healthy to face the challenge of the future.
(vii) to initiate the establishment of the fourth Medical College in the State.

I must thank you all heartily for the kind attention that you have given to my address and I hope with your support and guidance the Association will march from one pillar of success to another.

In the afternoon, scientific session was inaugurated by Dr. C. O. Karunakaran, President, I.M.A. Dr. Madan Prasad, Principal Darbhanga Medical College presided over the symposium on Haemorrhage in which Dr. S. M. Nawab, Dr. K. Prasad, Dr. U. N. Shahi, Dr. K. K. Sinha, Prof. T. B. Gupta, Dr. A. Sinha, Dr. B. Dasgupta, Dr. G. Sharma and others participated. In the evening there was an interesting programme of variety entertainments.

On the 9th morning in the open session resolutions were passed. The scientific session continued in the afternoon and evening and scientific subjects were discussed.

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The following resolutions were passed at the conference :

1. Resolved that the 19th Bihar State Medical Conference recommends to the State and Central Government to take suitable legislative measures against quackery.

2. Resolved that this Conference recommends to the State and Central Government to open a department of Physiotherapy in each of the Medical Colleges of the State.

3. Resolved that this Conference recommends to the State and Central Government that specialist medical practitioners as defined by the Government be allowed only consultation practice with enhanced pay scales.

4. Resolved that this Conference recommends to the State Government that every static dispensary in the State should have at least ten bedded dieted indoor accommodation attached to it for proper treatment of serious patients.

5. Resolved that on account of unsatisfactory state of affairs existing in C. D. Blocks as regards Health administration, this Conference recommends to the Government that the Health administration in C. D. Blocks should be directly under the Health Department of State Government and the medical officers in the blocks who are gazetted officers should be made drawing and disbursing officers.

6. Resolved that this Conference recommends to the State Government that the pay scales and service conditions of all doctors should be on an uniform pay scale whether in the service of State Government or Local Bodies.

7. As the pay scales of doctors in certain factories of the State are very low, this Conference recommends to the Labour Department of the State Government that such pay scales, emoluments and allowances, which are found to be low may be brought on par with that in State Medical Service.

8. Resolved that in order to give proper medical aid to the public, this Conference recommends to the State Government that Health Insurance Scheme should be introduced to cover the population in the State in the form operating in the factories and industrial areas.

9. Resolved that the District Board doctors, provided they were in permanent service in district boards be confirmed in the State Medical Service from the provincialisation of the dispensaries in which they were working.

10. Resolved that the Medical Officers in District Boards be given the scale of pay as in the State Medical service including cost of living allowance.

11. Resolved that the length of service of the District Board doctors before they were employed in Government service be taken into consideration, while fixing the pay scales in the State Medical Service.

12. This Conference recommends to the State Government to include a representative of the local branch of the I.M.A. in Sanitation Committees of the Local Bodies besides the ex-officio members.

13. Resolved that as far as practicable the doctors holding post-graduate degrees and diplomas should be posted in the blocks for one year only.

14. Resolved that the authorities concerned should be persuaded for the construction of post graduate hostels for post graduate students in medicine at Patna and Darbhanga.

15. Resolved that minimum non-practising allowance admissible should be Rs. 150/- p.m. as decided by the C. H. Ministry to all grades of Medical Officers.

16. Resolved that special allowance should be given to medical personnel serving in industrial or backward rural areas considering the living index and the lack of amenities as the case may be. This should be at least 20 per cent of the basic pay.

17. Resolved that in the absence of State Medical doctors in the mobile centres of N.E.S. Blocks, locally available qualified Private Medical Practitioners be appointed on monthly allowance of Rs. 150/- to conduct the sub-centre on a part time basis.

18. Resolved that for smooth and efficient working of Block Health Schemes, this 19th Bihar State Medical Conference strongly urges the State and Central governments to make the senior of the two medical officers for the department completely incharge of the implementation of Block health programmes and that the block medical personnel while co-ordinating their activities with the B.D.O. should be under direct administrative control of the Civil Surgeon.

19. This Conference strongly reiterates its previous resolutions on quackery and urges on the State Government to ban forthwith the couching of lens, as a first step towards total eradication of the evil of quackery.

20. This Conference requests the Government to direct the Special Officers, incharge District Boards to increase the pay of the doctors serving under District Board to the level recommended by the Government M.B.B.S. Rs. 175/- to Rs. 350/- & L.M.P. & L.M.F. Rs. 100/- to Rs. 190/-. The Conference draws the attention of the Government to the distressing disparity between the scales of pay in Purnea District Board and that recommended by Government. In addition the Conference also recommends to the Government to grant a special rural allowance of Rs. 50/- per month.

21. This Conference recommends to the Central Government to allow the doctors appointed by the Life Insurance Corporation to continue examining Insurance cases even when they are transferred from one place to the other.

22. Resolved that in each Block, a qualified compounder be posted in addition to the Sanitary Inspectors.

23. Resolved that all the C. A. Surgeons in the State Medical Service be transferred from one place to another according to a well-chalked out plan.

24. Resolved that all the temporary Civil Assistant Surgeons working in the State Health service be absorbed on permanent basis after a maximum period of 2 years.

25. Resolved that in view of the appreciable increase in the incidence of Enteric group of fevers throughout the year from every part of Bihar an adequate arrangement should be made for wide scale T.A.B. vaccination.

26. Resolved that the Antileprosy scheme be intensified on the pattern of National Malaria Control Programme on a National basis i.e. covering the entire Endemic areas, as the present patch-up work is not giving satisfactory results.

27. Resolved that a separate Filaria Unit be started at Sitamarhi to cover this area.

28. Resolved that with a view to improve Child Health Services, a separate children ward be opened at every sub-divisional hospital.

29. Resolved that the pay scale of doctors serving in the Bihar Medical and Public Health Services be implemented as suggested by the I.M.A.

30. Resolved that the quarter facilities be provided to the Medical Officers and their staff. If this is not feasible at present, a house rent allowance may be sanctioned to meet that expenditure.

31. Resolved that the State Health Department be requested to extend full facilities to deserving members of the State Medical Service for higher studies in medicine either in foreign or in this country in respect of leave, relief etc.

32. Resolved that the Indian Medical Council be requested to recognise post graduate diplomas confirmed by Patna University in different specialities.

33. Resolved that Assistant Health Officer after completing ten years approved service be considered for promotion to higher ranks.

XIV MADRAS STATE MEDICAL CONFERENCE, MADURAI 1960

The 14th Madras State Medical Conference of the Madras State Branch of the Indian Medical Association was held on 31-1-60 and 1-2-60 at Madurai under the auspices of the Madura Medical Association, branch of the Indian Medical Association. The Conference was inaugurated by Shri M. A. Manickavelu, the Health Minister to the Government of Madras, and was presided over by Dr. T. V. Sivanandam, the President of the Madras State Branch of the Indian Medical Association, who had been elected to the Presidentship for the second year in succession.

DR. P. VADAMALAYAN
CHAIRMAN, RECEPTION COMMITTEE

DR. T. V. SIVANANDAM
PRESIDENT OF THE CONFERENCE

On 31-1-60 the proceedings began with the hoisting of the National Flag by Sri M. A. Manickavelu, and the I.M.A. Flag by Dr. T. V. Sivanandam. After prayer, Dr. P. Vadamalayan, the Chairman of the Reception Committee in his Welcome Address, accorded a hearty welcome to the guests and delegates. He gave a short history of this old city of Madurai, the centre of Dravidian culture and civilisation. He concluded "Medical service in all its branches is progressing so fast and unless we are alert, we shall become back numbers. We need constantly to be refreshed by the new knowledge, techniques and methods of treatment that are enriching the field of activities of the Physician and the Surgeon. I trust Conferences of this kind will serve in some measure to revitalise us.

The Health Minister, Sri M. A. Manickavelu, inaugurating the Conference, said that despite the growing population and poor economic standards "we have made great progress in the matter of public health". The Minister said they were not concentrating on giving more amenities to villagers and emphasing the preventive aspect of medicine. He said, at the last conference of Health Ministers at Delhi it was decided to take steps to control and eradicate diseases like plague, malaria, cholera, small-pox, leprosy and tuberculosis. It had now been decided that the Central Government would take the fullest responsibility for financing the schemes to be implemented through the States in this regard. With this object in view, the conference had requested the Planning Commission and the Centre to increase the percentage of allotment for public health schemes and it was hoped that at least 10 per cent of the total outlay of Third Plan would be allotted for the purpose. Proceeding, the Minister said, plague had been completely checked in the State. As for the eradication of malaria, the Minister thanked the various foreign agencies which had come forward to work for the control of malaria. While inviting the attention of medical men to the need for simultaneous action to prevent this disease, the Minister said many Asian countries like Burma, Indonesia, China and Japan had now launched an anti-malaria programme for simultaneous implementation. Sri Manickavelu said small-pox had been eradicated in many countries and it should be easy for Indians also to control it. The Central Government had a scheme for training about 25,500 vaccinators as part of the anti-malaria scheme. The State Government had selected Chingleput district for the pilot scheme of vaccination and re-vaccination which after some time would be extended to the other areas in the State. For the control of cholera, the Minister said they had in the first instance to provide protected water supply and the National Water Supply Scheme which involved crores of rupees would be implemented

by the Centre according to a phased programme. Continuing, Sri Manickavelu said for the prevention of leprosy the State Government had, besides opening sanatoria in several places had resorted to domiciliary method of treatment. The Minister appealed to medical practitioners to take to treatment of leprosy patients without prejudice and to develop a sense of duty to the suffering villagers and do rural service at least in their spare time. Speaking about the general complaint that the emoluments of the Medical Officers in Service were inadequate, Sri Manickavelu indicated that the recommendations of the State Second Pay Commission which would cover medical practitioners under Government Service were likely to be beneficial to them. Concluding his speech, the Minister appealed once again to the members of the medical profession to interest themselves in rural medical service as it was in the villages that their presence was most felt; and in this connection he quoted the example of the foreign medical men leaving their homeland and coming to India and working in the Belgian Leprosy Centre in Polambakkam, Madurantakam taluk, Chinglepet district, and the sacrifice they had made of their personal comforts in living in the village of Polambakkam in improvised huts; and stressed that while foreigners who were accustomed to a luxurious life could do so in the interests of medical relief there was no reason why the members of medical profession in our country should not try to forego the lure of urban life and take to rural medical service especially in these days when almost all the village in our State are served by electricity and other amenities.

Dr. T. V. Sivánandam, the President of the Conference, then delivered his Presidential Address. In course of his address, he said,

"I.M.A. stands not only to keep up the prestige of the medical men in the society but also to see that the health of the country is kept up above par. Our object can never work its way to success unless the Government extend their co-operation to our association. I am glad to note that our present Government have realised the importance of our association and have come forward to give representation to our I.M.A. in all its committees in the medical and public health matters to chalk out the programmes in the five year plans for the benefit of the country. I assure the State Government that we are always at their disposal and we are prepared to give our suggestions and ready to be with the Government for the successful implementation of the various programmes of the Government in Health and Medical matters.

Service System

The subject of Health has been treated in a stepmotherly way by the Government. The medical men in service are paid very inadequately for the amount of work done by them and the personal risk involved in their daily routine of work, and more so during the time of the epidemics. The low scale of pay has been attributed by Government to the concession allowed to them by way of private practice. In order to ensure better whole-time attention and efficient management in the hospitals, the paid medical men must completely be debarred from having any private practice in lieu of the increase in better scales of pay and compensatory allowances for loss of private practice as is now existing under the Central Government Medical Services. The disparity in the pay scales and service conditions of the Government Medical Officers and Local Board Medical Officers in the Medical Department still exists. The distinction exists in spite of the fact that the basic academical qualification and the work turned out are the same. Pensionary rights must be given to the medical personnel under the Local Boards as is being given to the staff of the Education Department under Local Boards. Hence I strongly urge the Government to have one class of medical service only with better emoluments and do away with the various distinctions. Those who are possessing post-graduate qualifications must be paid more. Insufficient and unattractive emoluments will not be conducive to enrol oneself with the Government Service. In rural areas there are additional disadvantages for the doctors such as little or no facilities for housing, education of children and other minimum modern necessities; and the Government should see that these are provided so as to attract medical men to serve in rural areas.

Medical Education

Multiplicities of medical colleges will never serve the purpose. New Medical Colleges should not be mere factories to manufacture men and women with medical degrees but they must turn out medical men with fully equipped clinical knowledge to tackle the problems independently when they are called upon to shoulder. Modern trends in the treatment and diagnosis of cases are advancing fastly, and hence our Government must send medical men, paid as well as honorary, in sufficient numbers every year abroad to study in every branch of medicine and surgery. Teachers must be fully abreast with recent advances then only the taught will have full knowledge to march with the time. The Government Services must be recognised as it is recognised as in other departments and the salaries of medical men must be on par with that of similar posts in other departments. The new medical colleges and hospitals and dispensaries must be manned with proper and efficient personnel and equipped fully with drugs and appliances. If the posts of non-clinical teachers and the clinical teachers are made non-practising with adequate pay and allowances, then they may be able to give personal attention to their students, creating mutual trust, friendliness and better social relations. It is gratifying to note that our Government has come forward to give an increased allowance of Rs. 100/- to doctors working in the Primary Health Centres. The Government must spend more money for the preventive aspect of the diseases. The University must see that the subjects like Social Medicine, Occupational Diseases, Environmental Hygiene and Social Psychology and Psychiatry are given importance in the study of medicine. This year the World Health Organisation has given recognition to the mentally backward, mentally under-developed and handicapped children in the country. We are daily seeing these unfortunate lots who are of no use to society and to themselves. It is the duty of the Government to set up institutions at important centres for the care of these handicapped children. The proper upbringing of these institutional children by an efficient Psychiatrist will definitely make these children to adjust themselves well with the surroundings and they will be no longer a menace to the society and to their parents. One such institution is existing in Coimbatore and I have with pleasure to inform you that this institution has done good work. The Government must come forward to give all assistance and help to such institutions.

Government Hospital

District and Taluk Head-quarters Hospitals are being expanded and equipped with uptodate diagnostic and therapeutic equipments. District Hospitals must have more and more beds for admitting poor and middle class patients, with graded paying wards. The poor patients and the less fortunately placed persons in the community should never be refused admission as inpatients in any department. It is the duty of the State to see that they are properly looked after lest the disease of these persons will pollute the large population which will, in turn, become a big headache to the Government to tackle the spread of diseases.

Honorary Service

Honorary System of Medical Officers is working very efficiently in our State. Honorary Medical Officers have

turned out better volume of good work than their counterparts in some of the big hospitals. I am of opinion that the Government must have only a skeleton of Service Men in big hospitals and the rest must be in charge of the Honorary Medical Officers. Their services are voluntary, more sympathetic with better patient-doctor relationship. This we cannot generally find in some of the service persons as they are passing birds of passage only. If it is said that in some institutions the Honorary system is not working well it is mainly due to lack of proper understanding, mutual trust, co-operation and mutual tolerance between paid and honorary doctors. When the skeleton paid staff is posted in big hospitals the surplus staff can be drawn easily to primary centres and rural areas by turns. This will be, in my opinion, a definite solution, if observed strictly, for solving the problem of rural medical relief efficiently and satisfactorily.

Refresher Course

Medical Science is fast progressing. Hence periodical refresher courses, which are now in vogue in our State, may be extended to every district hospital instead of the present system of choosing regional centres of one for three districts. If this is instituted, it will, not only enable more medical men to be benefitted but would also improve the standard of treatment of hospital doctors and of private practitioners.

E. S. I. S.

Panel System of Employees State Insurance Scheme is working very satisfactorily in Coimbatore. I do not know why the Government have come forward to have only Service System in other areas in the State. In the panel system we have got an advantage that the panel doctor is in touch with his patient more intimately and he not only gives the treatment for diseases but he also tackles the cases with the psychological background of the patient. The patient-doctor relationship is more cordial . I am glad to hear that the E. S. I. Scheme will be extended shortly to the families also; and the actual remuneration paid by the Corporation will have to be supplemented by the State Government also as is done in Bombay and Calcutta. The Civil Hospitals are crowded with patients. With the introduction of the E. S. I. Scheme the crowd is increased and the E. S. I. patients are given admission in priority since certain number of beds have to be reserved for them. There are sufficient funds available in the E. S. I. Corporation, and the Corporation also, as I hear, is willing to give to the States for the benefit of the labourers. May I urge the Government to make use of this attitude of the Corporation by getting money from the Corporation to put up uptodate labour hospital units with all equipments in the important district centres to cater to the Medical and Surgical needs of the labourers? This will certainly reduce the crowds in the district hospitals and it will enable the admission and proper treatment of other patients. At present the E. S. I. Scheme is introduced to labourers of certain factories only. The Scheme must be extended to cover other classes and factories owned by the Government also.

Integrated Medicine

During this atomic age when we are embracing the results of research of modern science in every other walk of life we cannot remain stationary in the matter of health and treatment of diseases. Many of the drugs in the indigenous system of medicine have already been analysed and tested and the efficacious ones have been adopted in the modern pharmacopaea and some that remain can also undergo the process of testing as and when proved efficacious. The huge amount of money that is being spent by the Government every year on the College of Integrated Medicine is, in my opinion, a colossal waste. The graduates coming out of this college prefer to practise allopathic system of medicine to the other system which they are expected to have specialised. This kind of so-called integrated medicine will certainly lead to natural demise of Indigenous System of Medicine. If we really want that Ayurveda, Unani and Siddha system of medicine to flourish, it must be taught as a post-graduate study to the students who have obtained the basic qualification in the modern scientific medicine. We often see that the graduates of the integrated medicine have got more faith in the modern broad spectrum antibiotics and cortisones than in their own specialised choornams and lehyams. They are neither owned by the practitioners of Indigenous Medicine nor claimed by the practitioners of Allopathic Medicine. Our Parliamentarians and Legislators are always harping on Ayurveda and Homeopathy. I do not know why they do not get themselves treated by these methods when they are sick. Hence it is high time that we stop the eye-wash and make the College of Integrated Medicine a full blown Medical College of Modern Scientific Medicine.

Drug Industry

The cost of medicines have come in the way while treating the poor patients. The cost must be in the easy reach of a poor man. But when tackling the life and death of patient, the cost should not be a bar. I admit that there are medicines which are costly and not in the easy reach of the unfortunately placed persons. It is the duty of the Government to see that the costly medicines are supplied free or at rock-bottom prices. To achieve this end, the Government must come forward to have research laboratories and well equipped pharmaceutical concerns in the public sector for manufacture of effective drugs with provision for testing and standardising by well trained personnel; or they must encourage the private sector with all help and foreign exchange and subsidy to run pharmaceutical industry. There are several pharmaceutical concerns which are not able to progress due to want of finance and foreign exchange. The smaller ones may be amalgamated and Government must help them to carry on their work usefully to the public. There are several pharmaceutical concerns in our State whose products are equally good as that of foreign products. Yet we find that the authorities in our Government Institutions feel shy to encourage our own products. But on the other hand they feel proud to spend good amount of money lavishly on similar foreign drugs. If only they give encouragement to our manufacturers the large amount of money spent in several hospitals on foreign drugs will be reduced. May I urge the Government either to establish pharmaceutical industry for the production of various instruments and hospital appliances in the public sector or to give subsidy and all other help to the industry in the private sector to establish themselves in a firm footing to face the competition boldly and successfully in the open market?

Family Planning

Family Planning has been considered as one of the important questions to be dealt with to solve the socio-economic problems of the country. State Government is going ahead in the propaganda and giving all facilities to Government institutions and private agencies to carry this message throughout the length and breadth of our State. It is of course very essential though it is a fact that the people who are born in this world do not want others to be born. The family limitations and family spacings are important things to be dinned into the ears of persons who require them. Propaganda must be done through health journals. Certainly these propaganda may be misused by some. If that were to be the case proper legislative measures must be taken to put down these abuse and misuse of this good mission for the satisfaction of the carnal pleasures. The poor section of the community both in health and wealth must be tackled first. We should not be satisfied in giving appliances or sterilising the patients but proper vigil and follow-up must be done to find out the outcome and

complications of our procedures to the community at large. Family Planning should not result in the legalising of abortions or imparting effective birth controls to persons who dive deep in the acts of immorality. The best method of family limitations must be the one of Gandhian Principle of abstinence or adhering to the time-honoured rules and regulations of religious sentiments. But at this time of space period knowing fully well what we are it is difficult to follow them. Too much propaganda in the lay press and free supply of appliances to all and sundry will not do good in the long run. Sex problems must be taught at the college level when the pupils are mature enough to understand good and bad. For the successful solving of this problem it must be based on religion, character and morality. For proper dissemination of the family limitation the non-official social welfare organisation of women and the members of the I. M. A. can successfully play the role.

Medical Inspection

The health of our children and youth are very much neglected during the school and college days. They are susceptible to evil habits and diseases. Proper and compulsory medical inspection of boys and girls in the schools and colleges are essential. Mass X-Ray photographic examinations and medical check-ups must be done on them periodically to diagnose any latent diseases. This will prevent many promising students from invalidation at a time when they complete their studies to take up their responsibilities in the community.

General

Of late we see that the communal bias and political considerations are infiltrating into the medical world also. Such kind of infections are very much detrimental to the progress of the country. Members of I. M. A. should rise above these petty bickerings. Young doctors who are coming out of the colleges are not quite aware of medical ethics and code. There is every possibility that they may go wrong or commit mistakes at their early years of practice. It is the duty of the elders in profession and the members of the medical Council of the State to put youngsters in good stead instead of elders resorting to criticisms and bad remarks. We are fortunate to live in the Gandhian Era. Let us remember now the oft repeated saying of the Mahatma—the Father of our Nation. "We should not feel that we are living in this country for ourselves and for our family. We must realise that we are living also to uplift the people who are unfortunately placed in low health for no reason of theirs. We are the trustees of the Nation's Health. We have got to safeguard the health of the Nation. Our Nation and our Country expects us to do our service to lead the country to co-operative healthy commonwealth". May I urge all my comrades in profession to realise their duties to their profession, home and country? Every member of the I. M. A. is expected to do his duty to the I. M. A. by increasing the strength of the I. M. A. and the I. M. A. expects every member to stand firm under the banner of I. M. A. in good solidarity, to fight boldly and firmly against the diseases and to establish proper medical educational centres to uplift the standard and status of medical men and to raise ourselves to the standard of the Code of Medical Ethics.

Messages were then read by Dr. T. Thirugnanam, the General Secretary of the Conference. After a Vote of Thanks and singing of the National Anthem, the morning functions concluded.

The Scientific Sessions of the Conference commenced at 2-30 P.M. The Scientific Session was inaugurated by Dr. V. R. Thayumanaswamy, the Director of Medical Services, Madras. The scientific sessions, which was organised by Dr. K. Ramachandran of Madurai, had very interesting items in the programme. After the inaugural speech by the Director of Medical Services, there were lectures on "Virus research at the Pasteur Institute, Coonoor" by Dr. N. Veeraraghavan, the Director of the Pasteur Institute, Coonoor; and "The Present Status of Abdominal Surgery" by Lt. Col. Dr. C. K. Padanabha Menon, the Principal and Professor of Surgery, Madurai Medical College, Madurai.

The annual meeting of the State Council of the Madras State Branch of I.M.A. was held at 5-30 P.M. After the election of new office-bearers for the year 1959-60 at which Dr. M. P. Jesudasen, and Dr. S. G. Rajarathnam of Coimbatore were elected as the Hony. State Secretary and Hony. Treasurer respectively, the Council declared Dr. A. Pattabi, of Madras elected as the Hony. Jt. Secretary unanimously. Drs. T. V. Sivanandam, and C. Arumugam, were declared elected as the two representatives of the Madras State Branch of I. M. A. to the Central I. M. A. Working Committee at Delhi; and Drs. K. V. Swamy and C. Nathamuni Naidu as the two Alternate Representatives. The Council proceeded with the other subjects on the agenda like discussing the Audit Report, Annual Report etc., and concluded its sittings by 8 P.M.

On the 1st February 1960, the second day of the Conference, the scientific session continued. There were interesting and educative lectures on "The Unconscious Patient" by Dr. G. C. Ambunathan, Consultant Physician, Christian Mission Hospital, Madurai; "Transurethral Resections" and screening of colour film of Transurethral Resections by Dr. H. S. Bhat, Associate Professor of Surgery and Urologist, Christian Medical College and Hospital, Vellore; and "Diagnosis and Management of Common Congenital Malformations of the Heart" by Dr. K. A. Krishnamurthy, Lecturer in Paediatrics, Madurai Medical College.

A lecture on "A critical appraisal of Obstetric and Gynaecological Practice" by Dr. W. J. C. Rebello, Lecturer, Madurai Medical College and Obstetrician and Gynaecologist, Erskine Hospital Madurai followed the scientific session. In the afternoon there was a very interesting Quiz Programme.

The Open Session of the Conference was held in the evening at which the following resolutions were passed:

1. This Conference resolves that the Government of Madras be requested to grant the Government Scale of Pay for all Medical Officers in the service of the Local Boards and Municipalities.

2. This Conference resolves that the Government of Madras be requested to grant to the medical officers in the employ of all local bodies suitable additional pay for additional charges held or additional work done, the additional pay being not less than Rs. 50/- per mensem, besides the T. A. admissible as per rules on such occasions.

3. This Conference resolves that the Government of Madras be addressed to appoint a Reserve Medical Officer to relieve the medical officers applying for leave and asking urgent relief.

4. Whereas in G.O. Ms. No. 1473 Health d/ 5-5-1952 the Government have ordered that medical officers under local bodies can have consultative practice so long as they discharge their duties without any detriment to their normal duties; whereas in G.O. No. 2097 Health dated 20-8-52 the Government have in partial modification of their order abovementioned have ordered that the medical officers can have private practice subject to the provisions laid down in para 282 of the Civil Medical Code specified in the Annexure to the order so long as such practice is not detrimental to their normal duties; and whereas the Government have again in G. O. Ms. No. 3306 Health dated 11-11-59 ordered that the medical officers under the control of the local bodies may be allowed unrestricted private practice but that they may be debarred completely from running private dispensaries or nursing homes of their own; this Conference is of the opinion that the latest G.O. dated 11-11-59 is contradictory to the terms of the previous G.Os and that by debarring the medical officers from running dispensaries or nursing homes of their own the unrestricted private practice allowed by the latest G.O. becomes impossible of implementation. In

as much as the Government in issuing this latest G.O. have imposed on the medical officers under the local bodies the conditions applicable to Government Medical Officers regarding restricted private practice, this conference resolves to address the Government to order the payment of the compensatory allowance of Rs. 50/- per mensem in lieu of private practice permissible to the Government Medical Officers to the Medical Officers in employ of Local Bodies also.

8. This Conference resolves that the Government of Madras may be requested to grant a monthly allowance of Rs. 75/- to the Internees in the M.B.B.S. Course.

BRANCH NOTES

THE MADRAS CITY BRANCH—*The Silver Jubilee Celebrations* of the Madras City Branch began on the 6th February, 1960 with the hoisting of National flag by Mr. C. S. Loganathan, Sheriff of Madras and the I. M. A. flag by Dr. H. N. Shivapuri, President of I. M. A. at 10-20 A.M. with Nathaswaram singing, amidst delightful setting in presence of the elite of the medical profession of the city. Then the inauguration ceremony was held at the Examination Hall of the Madras Medical College at 10-30 A.M.

Dr. G. Sriramulu, Chairman of the Celebration Committee welcomed the gathering present and gave a brief account of activities of the city branch and how the strength has grown to 600, from 17 members in 1935 when it was started.

Dr. U. Krishna Rao moved a condolence resolution touching the demise of Lt. Col. K. G. Pandalai and it was adopted.

Dr. H. N. Shivapuri inaugurated the celebrations. He commended the activities of the City Branch and paid a tribute to Dr. U. Rama Rao, Dr. T. S. Thirumurthi, Lt. Col. K. G. Pandalai and Dr. D. V. Venkappa who have moulded the Branch to its present position. Then he unveiled the protraits of Dr. U. Rama Rao, Dr. T. S. Tirumurti and Dr. D. V. Venkappa.

Dr. D. R. Varman read the messages received from Mr. Bishnuram Mehdi, Governor of Madras and Dr. S. Wand of the British Medical Association and others.

The Jubilee Souvenir was presented by Dr. V. Samuel.

Dr. K. C. Nambiar who delivered the Jubilee Address said that medical personnel must be properly distributed, and pleaded that the profession must convince the people and Government as to the imperative necessity of diagnostic control.

Dr. U. Krishna Rao, in the course of the presidential address pleaded that the medical men should co-operate with the government in the rural medical schemes and that the Government should create incentives to doctors by building quarters and increasing emoluments. He also urged that overcrowding in City hospital must be tackled and suggested the opening of a separate fever hospital and a chronic diseases hospital.

Dr. D. V. Venkappa, Dr. K. Narayanamurthi, Dr. K. Santosham, Dr. R. Sankaran and Dr. P. Alagasingai Naidu (past presidents of the city branch of I.M.A.) addressed the gathering.

With a vote of thanks proposed by Dr. A. Pattabi, hony. secretary of the Silver Jubilee Celebration Committee, the inauguration ceremony concluded.

At 2 P.M. at the common hall of Madras Medical College Dr. M. Viswanathan welcomed Dr. S. Balasubramaniam, Dean of the Madras Medical College, who inaugurated the Scientific Session. The Scientific session was presided over by Dr. K. S. Sanjivi and Doctors P. K. Krishnankutty, C. R. R. Pillai, A. A. Asirvatham, R. A. Varman, B. V. Kalyani, A. T. John, B. G. Raju, spoke on changing trends in medicine in the last 25 years. At 6 P.M. again at the Examination Hall of the Medical College variety entertainments viz. Dances by Kumari Geetha Rao grand daughter of Dr. K. L. Narayana Rao, music A. M. Rajam and Jikki, a Tamil farce entitled Miss. Manorama presented by Viveka Fine Arts club were much appreciated by a large gathering present on the occasion.

At 8-30 P.M. a film was shown on Pneumonectomy in Tuberculosis and 9 P.M. at a dinner, Hony. Justice M. Ananthanarayanan, Mrs. Mona Hensman and Sri V. K. Narasimhan of "The Hindu" gave their impressions of the medical profession and expressed what they expected of medical personnel for the public.

On 7-2-60 at the Examination Hall of the College, a symposium on diabetes mellitus was held and was presided over by Dr. R. Subramaniam. After welcome speech by Dr. M. Viswanathan and president's introduction speech the following took part in the symposium: Dr. N. Madangopal, Dr. M. N. Ganapathy, Dr. Ninan Verghese, Dr. P. M. Palani, Dr. P. Govinda Menon, Dr. A. S. Ramakrishnan, Dr. N. S. Venugopal, Dr. A. Sitaratna, Dr. M. Natarajan, Dr. M. G. Prabhum, Dr. K. V. Thiruvengadam, Dr. K. V. Krishnaswamy, Dr. K. Ramachandra, Dr. K. Sambandam, Dr. R. Rajagopal.

The symposium was over at 1 P.M. At 2-30 P.M. sports for the doctors, their families and children and medical students was held at the Pachaiappas High School grounds. Interesting items were gone through including Tug of War and Fancy Dress competition wherein many took part. Mr. M. S. Abdul Kadar, Mayor of Madras presided and gave away the prizes to the winners. At 6 P.M. at the common hall of the College, there was a film show on Diabetes Mellitus.

The Jubilee Banquet was arranged at 8-30 P.M. Mr. Bishnuram Medhi, Governor of Madras was the Chief guest. After dinner, the toast to the president of the Indian Republic and I.M.A. was proposed by Dr. U. Krishna Rao and Dr. H. N. Shivapuri.

The toast to the Madras Branch of I.M.A. was proposed by Dr. Nathamuni Naidu, vice-president of Madras State Branch of I.M.A., and replied to by Dr. A. Pattabi, who requested doctors in Government service not to keep away from I.M.A. but to join in large numbers as this is the Primary Medical Association wherein all the doctors could come closer and discuss problems.

Then Dr. Sriramulu proposed the toast to the guests. The governor of Madras who replied on behalf of the guests emphasised the need for increasing the preventive measures in infectious diseases and wanted doctors to work to ameleorate the sickness with a vote of thanks, the function ended at 10 P.M. with the singing of Jana Gana Mana.

SATNA BRANCH—The annual general meeting was held on 16-1-60. Eleven members were present. Dr. Charan Singh presided. The annual report for 1958-59 was presented. The following office-bearers were elected: Dr. S. C. Sen—President; Dr. D. P. Yadava—Vice-President; Dr. K. K. Sharma—Hony. Secretary; Dr. G. H. Gehani Hony. Treasurer.

A case of Impacted Depressed Comminuted Fracture was presented by Dr. R. N. Tiwari.

It was decided to invite Dr. G. S. Wagle, President, M. P. State Branch to visit Satna.

ULUBERIA BRANCH—The first clinical meeting was held on 23-1-60. The President Dr. K. L. Basu Mallik was in the chair. 12 members attended. Dr. Basu Mallik gave an interesting talk on Reminiscences in General Practice during the Last Forty Years and dealt with a large number of subjects. Certain medicines received from the B.R.C. of the I.M.A. were handed over to Dr. D. N. Das, a member of the branch, for relief work at Banibon.

VARANASI BRANCH—A condolence resolution was adopted at a meeting (date not mentioned) expressing deep grief "at the sad demise of one of its oldest members, Dr. M. P. Verma" and praying that the Almighty Grant "Courage to the members of the bereaved family to bear the heavy loss."

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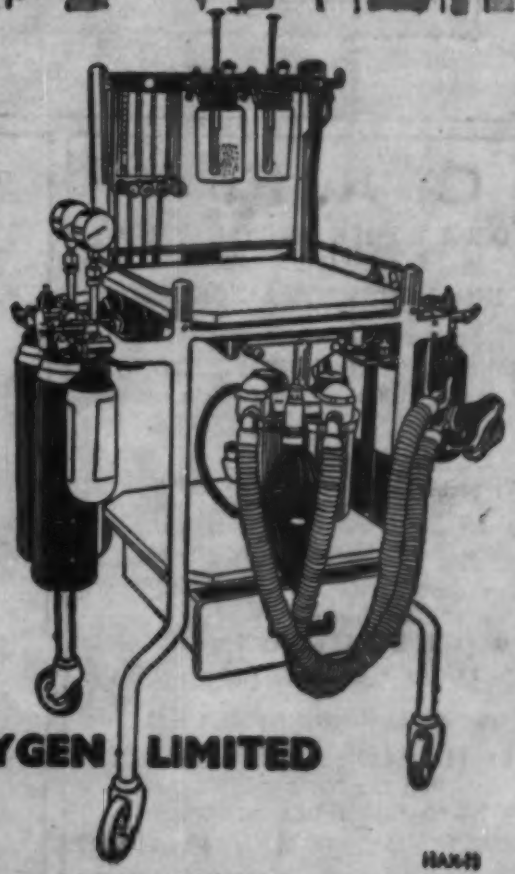

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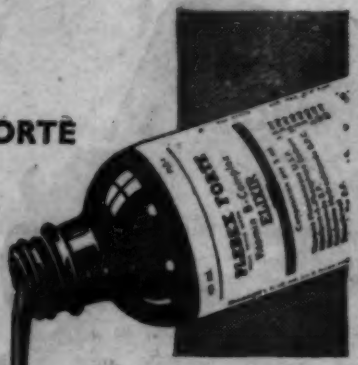

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